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**Department of Defense
Fiscal Year (FY) 2019 Budget Estimates**

February 2018



Navy

Justification Book Volume 4 of 5

Other Procurement, Navy

BA 4

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The estimated cost for this report for the Department of the Navy (DON) is \$9,064.

The estimated total cost for supporting the DON budget justification material is approximately \$1,643,653 for the 2018 fiscal year. This includes \$79,753 in supplies and \$1,563,900 in labor.

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Department of Defense Appropriations Act, 2019

Other Procurement, Navy

For procurement, production, and modernization of support equipment and materials not otherwise provided for, Navy ordnance (except ordnance for new aircraft, new ships, and ships authorized for conversion); the purchase of passenger motor vehicles for replacement only; expansion of public and private plants, including the land necessary therefore, and such lands and interests therein, may be acquired, and construction prosecuted thereon prior to approval of title; and procurement and installation of equipment, appliances, and machine tools in public and private plants; reserve plant and Government and contractor-owned equipment layaway, \$9,601,528,000, to remain available for obligation until September 30, 2021.

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation -----	FY 2017 (Base + OCO) -----	FY 2018 PB Request with CR Adj Base -----	FY 2018 Total PB Requests* with CR Adj Base -----	FY 2018 PB Request with CR Adj OCO -----
Other Procurement, Navy	6,651,966	6,585,009	6,210,084	251,083
Total Department of the Navy	6,651,966	6,585,009	6,210,084	251,083

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Department of the Navy
 FY 2019 President's Budget
 Exhibit P-1 FY 2019 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2018 Total PB Requests+ with CR Adj OCO -----	FY 2018 Emergency Requests** Emergency -----	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req Emergency -----
Other Procurement, Navy	251,083	25,750		25,750
Total Department of the Navy	251,083	25,750		25,750

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** -----	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency -----
Appropriation -----			
Other Procurement, Navy	6,461,167		6,461,167
Total Department of the Navy	6,461,167		6,461,167

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Department of the Navy
 FY 2019 President's Budget
 Exhibit P-1 FY 2019 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

Appropriation -----	FY 2019 Base -----	FY 2019 OCO -----	FY 2019 Total -----
Other Procurement, Navy	9,414,355	187,173	9,601,528
Total Department of the Navy	9,414,355	187,173	9,601,528

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity -----	FY 2017 (Base + OCO) -----	FY 2018 PB Request with CR Adj Base -----	FY 2018 Total PB Requests* with CR Adj Base -----	FY 2018 PB Request with CR Adj OCO -----
01. Ships Support Equipment	2,145,022	3,076,818	2,711,893	30,348
02. Communications & Electronics Equip	2,088,792	2,565,260	2,555,260	62,622
03. Aviation Support Equipment	418,972	441,542	441,542	29,245
04. Ordnance Support Equipment	1,010,342	929,371	929,371	34,406
05. Civil Engineering Support Equip	80,041	99,619	99,619	5,136
06. Supply Support Equipment	317,564	510,285	510,285	584
07. Personnel & Command Support Equip	391,606	376,329	376,329	56,540
08. Spares and Repair Parts	199,627	278,565	278,565	1,178
20. Undistributed		-1,692,780	-1,692,780	31,024
Total Other Procurement, Navy	6,651,966	6,585,009	6,210,084	251,083

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity -----	FY 2018 Total PB Requests+ with CR Adj OCO -----	FY 2018 Emergency Requests** Emergency -----	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req Emergency -----
01. Ships Support Equipment	30,348			
02. Communications & Electronics Equip	65,722	15,000		15,000
03. Aviation Support Equipment	29,245			
04. Ordnance Support Equipment	62,806			
05. Civil Engineering Support Equip	5,136			
06. Supply Support Equipment	584			
07. Personnel & Command Support Equip	56,540	10,750		10,750
08. Spares and Repair Parts	1,178			
20. Undistributed	-476			
Total Other Procurement, Navy	251,083	25,750		25,750

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity -----	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** -----	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs -----	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency -----
01. Ships Support Equipment	2,742,241		2,742,241
02. Communications & Electronics Equip	2,635,982		2,635,982
03. Aviation Support Equipment	470,787		470,787
04. Ordnance Support Equipment	992,177		992,177
05. Civil Engineering Support Equip	104,755		104,755
06. Supply Support Equipment	510,869		510,869
07. Personnel & Command Support Equip	443,619		443,619
08. Spares and Repair Parts	279,743		279,743
20. Undistributed	-1,719,006		-1,719,006
Total Other Procurement, Navy	6,461,167		6,461,167

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: Other Procurement, Navy

Budget Activity -----	FY 2019 Base -----	FY 2019 OCO -----	FY 2019 Total -----
01. Ships Support Equipment	3,180,536	28,260	3,208,796
02. Communications & Electronics Equip	3,176,305	62,150	3,238,455
03. Aviation Support Equipment	502,933	21,156	524,089
04. Ordnance Support Equipment	1,047,675	33,580	1,081,255
05. Civil Engineering Support Equip	112,448	8,638	121,086
06. Supply Support Equipment	604,532	500	605,032
07. Personnel & Command Support Equip	463,088	32,889	495,977
08. Spares and Repair Parts	326,838		326,838
20. Undistributed			
Total Other Procurement, Navy	9,414,355	187,173	9,601,528

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 01: Ships Support Equipment							

Ship Propulsion Equipment							
1	Surface Power Equipment	A	15,514	41,910	41,910		U
2	Hybrid Electric Drive (HED)		10,983	6,331	6,331		U
Generators							
3	Surface Combatant HM&E	A	27,447	27,392	27,392		U
Navigation Equipment							
4	Other Navigation Equipment	A	62,970	65,943	65,943		U
Other Shipboard Equipment							
5	Sub Periscope, Imaging and Supt Equip Prog	A	151,963	151,240	151,240		U
6	DDG Mod	A	429,614	603,355	603,355		U
7	Firefighting Equipment	A	13,752	15,887	15,887		U
8	Command and Control Switchboard	A	2,140	2,240	2,240		U
9	LHA/LHD Midlife	A	22,768	30,287	4,287		U
10	Pollution Control Equipment	B	16,510	17,293	17,293		U
11	Submarine Support Equipment	A	8,995	27,990	27,990		U
12	Virginia Class Support Equipment	A	63,908	46,610	46,610		U
13	LCS Class Support Equipment		43,819	47,955	47,955		U
14	Submarine Batteries		22,459	17,594	17,594		U

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO		FY 2018 Emergency Requests** Emergency		FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs		FY 2018 Remaining Req Emergency		S e c -
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 01: Ships Support Equipment											

Ship Propulsion Equipment											
1	Surface Power Equipment	A									U
2	Hybrid Electric Drive (HED)										U
Generators											
3	Surface Combatant HM&E	A									U
Navigation Equipment											
4	Other Navigation Equipment	A									U
Other Shipboard Equipment											
5	Sub Periscope, Imaging and Supt Equip Prog	A									U
6	DDG Mod	A									U
7	Firefighting Equipment	A									U
8	Command and Control Switchboard	A									U
9	LHA/LHD Midlife	A									U
10	Pollution Control Equipment	B									U
11	Submarine Support Equipment	A									U
12	Virginia Class Support Equipment	A									U
13	LCS Class Support Equipment										U
14	Submarine Batteries										U

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
----	-----	-----	-----	-----	-----	-----
Budget Activity 01: Ships Support Equipment						

Ship Propulsion Equipment						
1	Surface Power Equipment	A	41,910		41,910	U
2	Hybrid Electric Drive (HED)		6,331		6,331	U
Generators						
3	Surface Combatant HM&E	A	27,392		27,392	U
Navigation Equipment						
4	Other Navigation Equipment	A	65,943		65,943	U
Other Shipboard Equipment						
5	Sub Periscope, Imaging and Supt Equip Prog	A	151,240		151,240	U
6	DDG Mod	A	603,355		603,355	U
7	Firefighting Equipment	A	15,887		15,887	U
8	Command and Control Switchboard	A	2,240		2,240	U
9	LHA/LHD Midlife	A	4,287		4,287	U
10	Pollution Control Equipment	B	17,293		17,293	U
11	Submarine Support Equipment	A	27,990		27,990	U
12	Virginia Class Support Equipment	A	46,610		46,610	U
13	LCS Class Support Equipment		47,955		47,955	U
14	Submarine Batteries		17,594		17,594	U

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
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Budget Activity 01: Ships Support Equipment									

Ship Propulsion Equipment									
1	Surface Power Equipment	A		19,700			19,700		U
2	Hybrid Electric Drive (HED)								U
Generators									
3	Surface Combatant HM&E	A		23,495			23,495		U
Navigation Equipment									
4	Other Navigation Equipment	A		63,330			63,330		U
Other Shipboard Equipment									
5	Sub Periscope, Imaging and Supt Equip Prog	A		178,421			178,421		U
6	DDG Mod	A		487,999			487,999		U
7	Firefighting Equipment	A		28,143			28,143		U
8	Command and Control Switchboard	A		2,248			2,248		U
9	LHA/LHD Midlife	A		37,694			37,694		U
10	Pollution Control Equipment	B		20,883			20,883		U
11	Submarine Support Equipment	A		37,155			37,155		U
12	Virginia Class Support Equipment	A		66,328			66,328		U
13	LCS Class Support Equipment			47,241			47,241		U
14	Submarine Batteries			27,987			27,987		U

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
15	LPD Class Support Equipment		32,052	61,908	61,908		U
16	DDG 1000 Class Support Equipment	A	33,404				U
17	Strategic Platform Support Equip	A	14,571	15,812	15,812		U
18	DSSP Equipment	A	806	4,178	4,178		U
19	CG Modernization	A	319,920	306,050	306,050		U
20	LCAC	A	3,090	5,507	5,507		U
21	Underwater EOD Programs		34,650	55,922	55,922	12,348	U
22	Items Less Than \$5 Million	A	65,994	96,909	96,909		U
23	Chemical Warfare Detectors	A	2,873	3,036	3,036		U
24	Submarine Life Support System	A	4,543	10,364	10,364		U
	Reactor Plant Equipment						
25	Reactor Power Units	A		324,925			U
26	Reactor Components	A	342,158	534,468	534,468		U
	Ocean Engineering						
27	Diving and Salvage Equipment	A	8,176	10,619	10,619		U
	Small Boats						
28	Standard Boats	A	59,033	46,094	46,094	18,000	U
	Production Facilities Equipment						
29	Operating Forces Ipe	A	71,921	191,541	191,541		U

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
15	LPD Class Support Equipment										U
16	DDG 1000 Class Support Equipment	A									U
17	Strategic Platform Support Equip	A									U
18	DSSP Equipment	A									U
19	CG Modernization	A									U
20	LCAC	A									U
21	Underwater EOD Programs			12,348							U
22	Items Less Than \$5 Million	A									U
23	Chemical Warfare Detectors	A									U
24	Submarine Life Support System	A									U
	Reactor Plant Equipment										
25	Reactor Power Units	A									U
26	Reactor Components	A									U
	Ocean Engineering										
27	Diving and Salvage Equipment	A									U
	Small Boats										
28	Standard Boats	A		18,000							U
	Production Facilities Equipment										
29	Operating Forces Ipe	A									U

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-
15	LPD Class Support Equipment		61,908		61,908	U
16	DDG 1000 Class Support Equipment	A				U
17	Strategic Platform Support Equip	A	15,812		15,812	U
18	DSSP Equipment	A	4,178		4,178	U
19	CG Modernization	A	306,050		306,050	U
20	LCAC	A	5,507		5,507	U
21	Underwater EOD Programs		68,270		68,270	U
22	Items Less Than \$5 Million	A	96,909		96,909	U
23	Chemical Warfare Detectors	A	3,036		3,036	U
24	Submarine Life Support System	A	10,364		10,364	U
	Reactor Plant Equipment					
25	Reactor Power Units	A				U
26	Reactor Components	A	534,468		534,468	U
	Ocean Engineering					
27	Diving and Salvage Equipment	A	10,619		10,619	U
	Small Boats					
28	Standard Boats	A	64,094		64,094	U
	Production Facilities Equipment					
29	Operating Forces Ipe	A	191,541		191,541	U

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
15	LPD Class Support Equipment			65,033				65,033	U
16	DDG 1000 Class Support Equipment	A		89,700				89,700	U
17	Strategic Platform Support Equip	A		22,254				22,254	U
18	DSSP Equipment	A		3,629				3,629	U
19	CG Modernization	A		276,446				276,446	U
20	LCAC	A		3,709				3,709	U
21	Underwater EOD Programs			78,807		9,200		88,007	U
22	Items Less Than \$5 Million	A		126,865				126,865	U
23	Chemical Warfare Detectors	A		2,966				2,966	U
24	Submarine Life Support System	A		11,968				11,968	U
	Reactor Plant Equipment								
25	Reactor Power Units	A		346,325				346,325	U
26	Reactor Components	A		497,063				497,063	U
	Ocean Engineering								
27	Diving and Salvage Equipment	A		10,706				10,706	U
	Small Boats								
28	Standard Boats	A		49,771		19,060		68,831	U
	Production Facilities Equipment								
29	Operating Forces Ipe	A		225,181				225,181	U

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Department of the Navy
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
Other Ship Support							
30	Nuclear Alterations	A	172,718				U
31	LCS Common Mission Modules Equipment		14,670	34,666	34,666		U
32	LCS MCM Mission Modules		29,724	55,870	55,870		U
33	LCS ASW Mission Modules						U
34	LCS SUW Mission Modules		21,064	52,960	52,960		U
35	LCS In-Service Modernization	A		74,426	74,426		U
Logistic Support							
36	LSD Midlife & Modernization		20,813	89,536	75,536		U
Total Ships Support Equipment			2,145,022	3,076,818	2,711,893	30,348	
Budget Activity 02: Communications & Electronics Equip							

Ship Sonars							
37	SPQ-9B Radar	A	10,376	30,086	20,086		U
38	AN/SQQ-89 Surf ASW Combat System	A	87,824	102,222	102,222		U
39	SSN Acoustic Equipment	A	288,265	287,553	287,553	43,500	U
40	Undersea Warfare Support Equipment	A	7,163	13,653	13,653		U
ASW Electronic Equipment							
41	Submarine Acoustic Warfare System	A	21,291	21,449	21,449		U
42	SSTD	A	6,893	12,867	12,867		U

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO		FY 2018 Emergency Requests** Emergency		FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs		FY 2018 Remaining Req Emergency		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Other Ship Support											
30	Nuclear Alterations	A									U
31	LCS Common Mission Modules Equipment										U
32	LCS MCM Mission Modules										U
33	LCS ASW Mission Modules										U
34	LCS SUW Mission Modules										U
35	LCS In-Service Modernization	A									U
Logistic Support											
36	LSD Midlife & Modernization										U
Total Ships Support Equipment				30,348							
Budget Activity 02: Communications & Electronics Equip											

Ship Sonars											
37	SPQ-9B Radar	A									U
38	AN/SQQ-89 Surf ASW Combat System	A									U
39	SSN Acoustic Equipment	A		43,500							U
40	Undersea Warfare Support Equipment	A									U
ASW Electronic Equipment											
41	Submarine Acoustic Warfare System	A									U
42	SSTD	A									U

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Department of the Navy
FY 2019 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
Other Ship Support						
30	Nuclear Alterations	A				U
31	LCS Common Mission Modules Equipment		34,666		34,666	U
32	LCS MCM Mission Modules		55,870		55,870	U
33	LCS ASW Mission Modules					U
34	LCS SUW Mission Modules		52,960		52,960	U
35	LCS In-Service Modernization	A	74,426		74,426	U
Logistic Support						
36	LSD Midlife & Modernization		75,536		75,536	U
Total Ships Support Equipment			2,742,241		2,742,241	
Budget Activity 02: Communications & Electronics Equip						

Ship Sonars						
37	SPQ-9B Radar	A	20,086		20,086	U
38	AN/SQQ-89 Surf ASW Combat System	A	102,222		102,222	U
39	SSN Acoustic Equipment	A	331,053		331,053	U
40	Undersea Warfare Support Equipment	A	13,653		13,653	U
ASW Electronic Equipment						
41	Submarine Acoustic Warfare System	A	21,449		21,449	U
42	SSTD	A	12,867		12,867	U

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Other Ship Support									
30	Nuclear Alterations	A							U
31	LCS Common Mission Modules Equipment		46,732				46,732		U
32	LCS MCM Mission Modules		124,147				124,147		U
33	LCS ASW Mission Modules		57,294				57,294		U
34	LCS SUW Mission Modules		26,006				26,006		U
35	LCS In-Service Modernization	A	70,526				70,526		U
Logistic Support									
36	LSD Midlife & Modernization		4,784				4,784		U
Total Ships Support Equipment			3,180,536		28,260		3,208,796		
Budget Activity 02: Communications & Electronics Equip									

Ship Sonars									
37	SPQ-9B Radar	A	20,309				20,309		U
38	AN/SQQ-89 Surf ASW Combat System	A	115,459				115,459		U
39	SSN Acoustic Equipment	A	318,189				318,189		U
40	Undersea Warfare Support Equipment	A	10,134				10,134		U
ASW Electronic Equipment									
41	Submarine Acoustic Warfare System	A	23,815				23,815		U
42	SSTD	A	11,277				11,277		U

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-----
43	Fixed Surveillance System	A	145,701	300,102	300,102		U
44	SURTASS	A	43,743	30,180	30,180		U
	Electronic Warfare Equipment						
45	AN/SLQ-32	A	244,001	240,433	240,433		U
	Reconnaissance Equipment						
46	Shipboard IW Exploit	A	169,021	187,007	187,007		U
47	Automated Identification System (AIS)		764	510	510		U
	Other Ship Electronic Equipment						
48	Cooperative Engagement Capability	B	17,965	23,892	23,892		U
49	Naval Tactical Command Support System (NTCSS)	A	12,336	10,741	10,741		U
50	ATDLS	A	24,395	38,016	38,016		U
51	Navy Command and Control System (NCCS)		4,556	4,512	4,512		U
52	Minesweeping System Replacement	A	26,764	31,531	31,531		U
53	Shallow Water MCM	B	8,875	8,796	8,796		U
54	Navstar GPS Receivers (SPACE)	A	7,102	15,923	15,923		U
55	American Forces Radio and TV Service	A	4,577	2,730	2,730		U
56	Strategic Platform Support Equip	A	8,972	6,889	6,889		U
	Aviation Electronic Equipment						
57	Ashore ATC Equipment	A	68,392	71,882	71,882		U

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
43	Fixed Surveillance System	A									U
44	SURTASS	A									U
	Electronic Warfare Equipment										
45	AN/SLQ-32	A									U
	Reconnaissance Equipment										
46	Shipboard IW Exploit	A									U
47	Automated Identification System (AIS)										U
	Other Ship Electronic Equipment										
48	Cooperative Engagement Capability	B									U
49	Naval Tactical Command Support System (NTCSS)	A									U
50	ATDLS	A									U
51	Navy Command and Control System (NCCS)										U
52	Minesweeping System Replacement	A									U
53	Shallow Water MCM	B									U
54	Navstar GPS Receivers (SPACE)	A									U
55	American Forces Radio and TV Service	A									U
56	Strategic Platform Support Equip	A									U
	Aviation Electronic Equipment										
57	Ashore ATC Equipment	A									U

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
43	Fixed Surveillance System	A	300,102		300,102	U
44	SURTASS	A	30,180		30,180	U
	Electronic Warfare Equipment					
45	AN/SLQ-32	A	240,433		240,433	U
	Reconnaissance Equipment					
46	Shipboard IW Exploit	A	187,007		187,007	U
47	Automated Identification System (AIS)		510		510	U
	Other Ship Electronic Equipment					
48	Cooperative Engagement Capability	B	23,892		23,892	U
49	Naval Tactical Command Support System (NTCSS)	A	10,741		10,741	U
50	ATDLS	A	38,016		38,016	U
51	Navy Command and Control System (NCCS)		4,512		4,512	U
52	Minesweeping System Replacement	A	31,531		31,531	U
53	Shallow Water MCM	B	8,796		8,796	U
54	Navstar GPS Receivers (SPACE)	A	15,923		15,923	U
55	American Forces Radio and TV Service	A	2,730		2,730	U
56	Strategic Platform Support Equip	A	6,889		6,889	U
	Aviation Electronic Equipment					
57	Ashore ATC Equipment	A	71,882		71,882	U

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
43	Fixed Surveillance System	A		237,780		56,950		294,730	U
44	SURTASS	A		57,872				57,872	U
	Electronic Warfare Equipment								
45	AN/SLQ-32	A		420,344				420,344	U
	Reconnaissance Equipment								
46	Shipboard IW Exploit	A		220,883				220,883	U
47	Automated Identification System (AIS)			4,028				4,028	U
	Other Ship Electronic Equipment								
48	Cooperative Engagement Capability	B		44,173				44,173	U
49	Naval Tactical Command Support System (NTCSS)	A		10,991				10,991	U
50	ATDLS	A		34,526				34,526	U
51	Navy Command and Control System (NCCS)			3,769				3,769	U
52	Minesweeping System Replacement	A		35,709				35,709	U
53	Shallow Water MCM	B		8,616				8,616	U
54	Navstar GPS Receivers (SPACE)	A		10,703				10,703	U
55	American Forces Radio and TV Service	A		2,626				2,626	U
56	Strategic Platform Support Equip	A		9,467				9,467	U
	Aviation Electronic Equipment								
57	Ashore ATC Equipment	A		70,849				70,849	U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
58	Afloat ATC Equipment	A	29,411	44,611	44,611		U
59	ID Systems	A	22,177	21,239	21,239		U
60	Joint Precision Approach And Landing System (U
61	Naval Mission Planning Systems	A	13,910	11,976	11,976	2,550	U
	Other Shore Electronic Equipment						
62	Tactical/Mobile C4I Systems	A	23,908	32,425	32,425	7,900	U
63	DCGS-N	A	23,610	13,790	13,790	6,392	U
64	CANES		207,730	322,754	322,754		U
65	RADIAC	A	8,092	10,718	10,718		U
66	CANES-Intell		35,313	48,028	48,028		U
67	GPETE	A	6,428	6,861	6,861		U
68	MASF			8,081	8,081		U
69	Integ Combat System Test Facility	A	8,376	5,019	5,019		U
70	EMI Control Instrumentation	A	3,971	4,188	4,188		U
71	Items Less Than \$5 Million	A	47,664	105,292	105,292		U
	Shipboard Communications						
72	Shipboard Tactical Communications	A	9,671	23,695	23,695		U
73	Ship Communications Automation	A	109,191	103,990	103,990		U
74	Communications Items Under \$5M	A	10,077	18,577	18,577		U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
58	Afloat ATC Equipment	A									U
59	ID Systems	A									U
60	Joint Precision Approach And Landing System (U
61	Naval Mission Planning Systems	A		2,550							U
	Other Shore Electronic Equipment										
62	Tactical/Mobile C4I Systems	A		7,900							U
63	DCGS-N	A		6,392							U
64	CANES										U
65	RADIAC	A									U
66	CANES-Intell										U
67	GPETE	A									U
68	MASF										U
69	Integ Combat System Test Facility	A									U
70	EMI Control Instrumentation	A									U
71	Items Less Than \$5 Million	A									U
	Shipboard Communications										
72	Shipboard Tactical Communications	A									U
73	Ship Communications Automation	A									U
74	Communications Items Under \$5M	A									U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity	Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
58	Afloat ATC Equipment	A		44,611			44,611		U
59	ID Systems	A		21,239			21,239		U
60	Joint Precision Approach And Landing System (U
61	Naval Mission Planning Systems	A		14,526			14,526		U
	Other Shore Electronic Equipment								
62	Tactical/Mobile C4I Systems	A		40,325			40,325		U
63	DCGS-N	A		20,182			20,182		U
64	CANES			322,754			322,754		U
65	RADIAC	A		10,718			10,718		U
66	CANES-Intell			48,028			48,028		U
67	GPETE	A		6,861			6,861		U
68	MASF			8,081			8,081		U
69	Integ Combat System Test Facility	A		5,019			5,019		U
70	EMI Control Instrumentation	A		4,188			4,188		U
71	Items Less Than \$5 Million	A		105,292			105,292		U
	Shipboard Communications								
72	Shipboard Tactical Communications	A		23,695			23,695		U
73	Ship Communications Automation	A		103,990			103,990		U
74	Communications Items Under \$5M	A		18,577			18,577		U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
58	Afloat ATC Equipment	A		47,890			47,890		U
59	ID Systems	A		26,163			26,163		U
60	Joint Precision Approach And Landing System (38,094			38,094		U
61	Naval Mission Planning Systems	A		11,966			11,966		U
	Other Shore Electronic Equipment								
62	Tactical/Mobile C4I Systems	A		42,010			42,010		U
63	DCGS-N	A		12,896			12,896		U
64	CANES			423,027			423,027		U
65	RADIAC	A		8,175			8,175		U
66	CANES-Intell			54,465			54,465		U
67	GPETE	A		5,985			5,985		U
68	MASF			5,413			5,413		U
69	Integ Combat System Test Facility	A		6,251			6,251		U
70	EMI Control Instrumentation	A		4,183			4,183		U
71	Items Less Than \$5 Million	A		148,350			148,350		U
	Shipboard Communications								
72	Shipboard Tactical Communications	A		45,450			45,450		U
73	Ship Communications Automation	A		105,087			105,087		U
74	Communications Items Under \$5M	A		41,123			41,123		U

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
	Submarine Communications						
75	Submarine Broadcast Support	A	31,068	29,669	29,669		U
76	Submarine Communication Equipment	A	62,305	86,204	86,204		U
	Satellite Communications						
77	Satellite Communications Systems	A	14,414	14,654	14,654		U
78	Navy Multiband Terminal (NMT)		33,992	69,764	69,764		U
	Shore Communications						
79	Joint Communications Support Element (JCSE)	A	4,156	4,256	4,256		U
	Cryptographic Equipment						
80	Info Systems Security Program (ISSP)	A	92,454	89,663	89,663		U
81	MIO Intel Exploitation Team	A	920	961	961		U
	Cryptologic Equipment						
82	Cryptologic Communications Equip	A	23,698	11,287	11,287	2,280	U
	Other Electronic Support						
83	DON UAS 1***	A	2,517				U
84	DON UAS 2***	A	4,927				U
85	DON ACTS***	A	1,545				U
86	Coast Guard Equipment	A	32,291	36,584	36,584		U

***Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Submarine Communications											
75	Submarine Broadcast Support	A			15,000				15,000		U
76	Submarine Communication Equipment	A									U
Satellite Communications											
77	Satellite Communications Systems	A									U
78	Navy Multiband Terminal (NMT)										U
Shore Communications											
79	Joint Communications Support Element (JCSE)	A									U
Cryptographic Equipment											
80	Info Systems Security Program (ISSP)	A									U
81	MIO Intel Exploitation Team	A									U
Cryptologic Equipment											
82	Cryptologic Communications Equip	A		5,380							U
Other Electronic Support											
83	DON UAS 1***	A									U
84	DON UAS 2***	A									U
85	DON ACTS***	A									U
86	Coast Guard Equipment	A									U

***Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
Submarine Communications						
75	Submarine Broadcast Support	A	44,669		44,669	U
76	Submarine Communication Equipment	A	86,204		86,204	U
Satellite Communications						
77	Satellite Communications Systems	A	14,654		14,654	U
78	Navy Multiband Terminal (NMT)		69,764		69,764	U
Shore Communications						
79	Joint Communications Support Element (JCSE)	A	4,256		4,256	U
Cryptographic Equipment						
80	Info Systems Security Program (ISSP)	A	89,663		89,663	U
81	MIO Intel Exploitation Team	A	961		961	U
Cryptologic Equipment						
82	Cryptologic Communications Equip	A	16,667		16,667	U
Other Electronic Support						
83	DON UAS 1***	A				U
84	DON UAS 2***	A				U
85	DON ACTS***	A				U
86	Coast Guard Equipment	A	36,584		36,584	U

***Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
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Submarine Communications									
75	Submarine Broadcast Support	A		30,897			30,897		U
76	Submarine Communication Equipment	A		78,580			78,580		U
Satellite Communications									
77	Satellite Communications Systems	A		41,205		3,200	44,405		U
78	Navy Multiband Terminal (NMT)			113,885			113,885		U
Shore Communications									
79	Joint Communications Support Element (JCSE)	A		4,292			4,292		U
Cryptographic Equipment									
80	Info Systems Security Program (ISSP)	A		153,526			153,526		U
81	MIO Intel Exploitation Team	A		951			951		U
Cryptologic Equipment									
82	Cryptologic Communications Equip	A		14,209		2,000	16,209		U
Other Electronic Support									
83	DON UAS 1***	A							U
84	DON UAS 2***	A							U
85	DON ACTS***	A							U
86	Coast Guard Equipment	A		40,713			40,713		U

***Funding in this line item was transferred during the year of execution from the Spectrum Relocation Fund (SRF) in support of the Advanced Wireless Services 3 (AWS-3) auction and is associated with the reallocation or sharing of the 1755-1780 MHz and 1695-1710 MHz bands. The SRF is administered by the Office of Management and Budget (OMB), which approves SRF transfers to federal agencies on an annual basis in consultation with the National Telecommunications and Information Administration (NTIA).

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Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
	Drug Interdiction Support						
87	Other Drug Interdiction Support	A	16,000				U
	Total Communications & Electronics Equip		2,088,792	2,565,260	2,555,260	62,622	
	Budget Activity 03: Aviation Support Equipment						
	Sonobuoys						
88	Sonobuoys - All Types	A	158,588	173,616	173,616		U
	Aircraft Support Equipment						
89	Weapons Range Support Equipment	A	58,116	72,110	72,110		U
90	Aircraft Support Equipment	A	115,551	108,482	108,482		U
91	Advanced Arresting Gear (AAG)	A		10,900	10,900		U
92	Meteorological Equipment	A	29,015	21,137	21,137		U
93	DCRS/DPL	A	632	660	660		U
94	Airborne Mine Countermeasures	A	27,542	20,605	20,605		U
95	Lamps Equipment						U
96	Aviation Support Equipment	A	29,528	34,032	34,032	29,245	U
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A					U
	Total Aviation Support Equipment		418,972	441,542	441,542	29,245	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-----	----	-
	Drug Interdiction Support										
87	Other Drug Interdiction Support	A									U
				-----		-----		-----		-----	
	Total Communications & Electronics Equip			65,722		15,000				15,000	
	Budget Activity 03: Aviation Support Equipment										

	Sonobuoys										
88	Sonobuoys - All Types	A									U
	Aircraft Support Equipment										
89	Weapons Range Support Equipment	A									U
90	Aircraft Support Equipment	A									U
91	Advanced Arresting Gear (AAG)	A									U
92	Meteorological Equipment	A									U
93	DCRS/DPL	A									U
94	Airborne Mine Countermeasures	A									U
95	Lamps Equipment										U
96	Aviation Support Equipment	A		29,245							U
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A									U
				-----		-----		-----		-----	
	Total Aviation Support Equipment			29,245							

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Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
	Drug Interdiction Support					
87	Other Drug Interdiction Support	A				U
	Total Communications & Electronics Equip		2,635,982		2,635,982	
	Budget Activity 03: Aviation Support Equipment					
	Sonobuoys					
88	Sonobuoys - All Types	A	173,616		173,616	U
	Aircraft Support Equipment					
89	Weapons Range Support Equipment	A	72,110		72,110	U
90	Aircraft Support Equipment	A	108,482		108,482	U
91	Advanced Arresting Gear (AAG)	A	10,900		10,900	U
92	Meteorological Equipment	A	21,137		21,137	U
93	DCRS/DPL	A	660		660	U
94	Airborne Mine Countermeasures	A	20,605		20,605	U
95	Lamps Equipment					U
96	Aviation Support Equipment	A	63,277		63,277	U
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A				U
	Total Aviation Support Equipment		470,787		470,787	

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
	Drug Interdiction Support								
87	Other Drug Interdiction Support	A							U
	Total Communications & Electronics Equip		3,176,305		62,150		3,238,455		
	Budget Activity 03: Aviation Support Equipment								

	Sonobuoys								
88	Sonobuoys - All Types	A	177,891		21,156		199,047		U
	Aircraft Support Equipment								
89	Weapons Range Support Equipment	A	93,864				93,864		U
90	Aircraft Support Equipment	A	111,724				111,724		U
91	Advanced Arresting Gear (AAG)	A	11,054				11,054		U
92	Meteorological Equipment	A	21,072				21,072		U
93	DCRS/DPL	A	656				656		U
94	Airborne Mine Countermeasures	A	11,299				11,299		U
95	Lamps Equipment		594				594		U
96	Aviation Support Equipment	A	39,374				39,374		U
97	UMCS-Unman Carrier Aviation(UCA)Mission Cntrl	A	35,405				35,405		U
	Total Aviation Support Equipment		502,933		21,156		524,089		

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 04: Ordnance Support Equipment							

Ship Gun System Equipment							
98	Ship Gun Systems Equipment	A	6,191	5,277	5,277		U
Ship Missile Systems Equipment							
99	Ship Missile Support Equipment	A	307,447	272,359	272,359	2,436	U
100	Tomahawk Support Equipment	A	67,062	73,184	73,184		U
FBM Support Equipment							
101	Strategic Missile Systems Equip	A	215,138	246,221	246,221		U
ASW Support Equipment							
102	SSN Combat Control Systems	A	144,715	129,972	129,972		U
103	ASW Support Equipment	A	36,431	23,209	23,209		U
Other Ordnance Support Equipment							
104	Explosive Ordnance Disposal Equip	B	92,655	15,596	15,596	31,970	U
105	Items Less Than \$5 Million	A	6,243	5,981	5,981		U
Other Expendable Ordnance							
106	Submarine Training Device Mods	A	46,746	74,550	74,550		U
107	Surface Training Equipment	A	87,714	83,022	83,022		U
Total Ordnance Support Equipment			1,010,342	929,371	929,371	34,406	

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c -
Budget Activity 04: Ordnance Support Equipment											

	Ship Gun System Equipment										
98	Ship Gun Systems Equipment	A									U
	Ship Missile Systems Equipment										
99	Ship Missile Support Equipment	A		2,436							U
100	Tomahawk Support Equipment	A									U
	FBM Support Equipment										
101	Strategic Missile Systems Equip	A									U
	ASW Support Equipment										
102	SSN Combat Control Systems	A									U
103	ASW Support Equipment	A									U
	Other Ordnance Support Equipment										
104	Explosive Ordnance Disposal Equip	B		60,370							U
105	Items Less Than \$5 Million	A									U
	Other Expendable Ordnance										
106	Submarine Training Device Mods	A									U
107	Surface Training Equipment	A									U
	Total Ordnance Support Equipment			62,806							

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
----	-----	-----	-----	-----	-----	-
Budget Activity 04: Ordnance Support Equipment						

	Ship Gun System Equipment					
98	Ship Gun Systems Equipment	A	5,277		5,277	U
	Ship Missile Systems Equipment					
99	Ship Missile Support Equipment	A	274,795		274,795	U
100	Tomahawk Support Equipment	A	73,184		73,184	U
	FBM Support Equipment					
101	Strategic Missile Systems Equip	A	246,221		246,221	U
	ASW Support Equipment					
102	SSN Combat Control Systems	A	129,972		129,972	U
103	ASW Support Equipment	A	23,209		23,209	U
	Other Ordnance Support Equipment					
104	Explosive Ordnance Disposal Equip	B	75,966		75,966	U
105	Items Less Than \$5 Million	A	5,981		5,981	U
	Other Expendable Ordnance					
106	Submarine Training Device Mods	A	74,550		74,550	U
107	Surface Training Equipment	A	83,022		83,022	U
			-----	-----	-----	
	Total Ordnance Support Equipment		992,177		992,177	

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Department of the Navy
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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 04: Ordnance Support Equipment									

Ship Gun System Equipment									
98	Ship Gun Systems Equipment	A		5,337			5,337		U
Ship Missile Systems Equipment									
99	Ship Missile Support Equipment	A		213,090			213,090		U
100	Tomahawk Support Equipment	A		92,890			92,890		U
FBM Support Equipment									
101	Strategic Missile Systems Equip	A		271,817			271,817		U
ASW Support Equipment									
102	SSN Combat Control Systems	A		129,501			129,501		U
103	ASW Support Equipment	A		19,436			19,436		U
Other Ordnance Support Equipment									
104	Explosive Ordnance Disposal Equip	B		14,258		33,580	47,838		U
105	Items Less Than \$5 Million	A		5,378			5,378		U
Other Expendable Ordnance									
106	Submarine Training Device Mods	A		65,543			65,543		U
107	Surface Training Equipment	A		230,425			230,425		U
			-----		-----		-----		
Total Ordnance Support Equipment				1,047,675		33,580	1,081,255		

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 05: Civil Engineering Support Equip -----							
Civil Engineering Support Equipment							
108	Passenger Carrying Vehicles	A	9,078	5,299	5,299		U
109	General Purpose Trucks	A	4,794	2,946	2,946	496	U
110	Construction & Maintenance Equip	A	18,553	34,970	34,970		U
111	Fire Fighting Equipment	A	14,199	2,541	2,541	2,304	U
112	Tactical Vehicles	B	13,824	19,699	19,699	2,336	U
113	Amphibious Equipment	A	7,676	12,162	12,162		U
114	Pollution Control Equipment	A	2,321	2,748	2,748		U
115	Items Under \$5 Million	A	8,501	18,084	18,084		U
116	Physical Security Vehicles	A	1,095	1,170	1,170		U
Total Civil Engineering Support Equip			80,041	99,619	99,619	5,136	
Budget Activity 06: Supply Support Equipment -----							
Supply Support Equipment							
117	Supply Equipment	A	16,978	21,797	21,797	164	U
118	First Destination Transportation	A	5,115	5,572	5,572	420	U
119	Special Purpose Supply Systems	A	295,471	482,916	482,916		U
Total Supply Support Equipment			317,564	510,285	510,285	584	

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FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO		FY 2018 Emergency Requests** Emergency		FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs		FY 2018 Remaining Req Emergency		S e c
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	
Budget Activity 05: Civil Engineering Support Equip											

Civil Engineering Support Equipment											
108	Passenger Carrying Vehicles	A									U
109	General Purpose Trucks	A		496							U
110	Construction & Maintenance Equip	A									U
111	Fire Fighting Equipment	A		2,304							U
112	Tactical Vehicles	B		2,336							U
113	Amphibious Equipment	A									U
114	Pollution Control Equipment	A									U
115	Items Under \$5 Million	A									U
116	Physical Security Vehicles	A									U
Total Civil Engineering Support Equip				5,136							
Budget Activity 06: Supply Support Equipment											

Supply Support Equipment											
117	Supply Equipment	A		164							U
118	First Destination Transportation	A		420							U
119	Special Purpose Supply Systems	A									U
Total Supply Support Equipment				584							

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
Budget Activity 05: Civil Engineering Support Equip						

Civil Engineering Support Equipment						
108	Passenger Carrying Vehicles	A	5,299		5,299	U
109	General Purpose Trucks	A	3,442		3,442	U
110	Construction & Maintenance Equip	A	34,970		34,970	U
111	Fire Fighting Equipment	A	4,845		4,845	U
112	Tactical Vehicles	B	22,035		22,035	U
113	Amphibious Equipment	A	12,162		12,162	U
114	Pollution Control Equipment	A	2,748		2,748	U
115	Items Under \$5 Million	A	18,084		18,084	U
116	Physical Security Vehicles	A	1,170		1,170	U
			-----	-----	-----	
	Total Civil Engineering Support Equip		104,755		104,755	
Budget Activity 06: Supply Support Equipment						

Supply Support Equipment						
117	Supply Equipment	A	21,961		21,961	U
118	First Destination Transportation	A	5,992		5,992	U
119	Special Purpose Supply Systems	A	482,916		482,916	U
			-----	-----	-----	
	Total Supply Support Equipment		510,869		510,869	

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Department of the Navy
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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 05: Civil Engineering Support Equip -----									
Civil Engineering Support Equipment									
108	Passenger Carrying Vehicles	A	4,867		170		5,037		U
109	General Purpose Trucks	A	2,674		400		3,074		U
110	Construction & Maintenance Equip	A	20,994				20,994		U
111	Fire Fighting Equipment	A	17,189		770		17,959		U
112	Tactical Vehicles	B	19,916		7,298		27,214		U
113	Amphibious Equipment	A	7,400				7,400		U
114	Pollution Control Equipment	A	2,713				2,713		U
115	Items Under \$5 Million	A	35,540				35,540		U
116	Physical Security Vehicles	A	1,155				1,155		U
Total Civil Engineering Support Equip			112,448		8,638		121,086		
Budget Activity 06: Supply Support Equipment -----									
Supply Support Equipment									
117	Supply Equipment	A	18,786				18,786		U
118	First Destination Transportation	A	5,375		500		5,875		U
119	Special Purpose Supply Systems	A	580,371				580,371		U
Total Supply Support Equipment			604,532		500		605,032		

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Department of the Navy
FY 2019 President's Budget
Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 07: Personnel & Command Support Equip -----							
Training Devices							
120	Training Support Equipment	A					U
121	Training and Education Equipment	A	6,347	25,624	25,624		U
Command Support Equipment							
122	Command Support Equipment	A	44,666	59,076	59,076	21,650	U
123	Medical Support Equipment	A	11,959	4,383	4,383		U
125	Naval MIP Support Equipment	A	1,925	2,030	2,030		U
126	Operating Forces Support Equipment	A	3,822	7,500	7,500	15,800	U
127	C4ISR Equipment	A	9,073	4,010	4,010		U
128	Environmental Support Equipment	A	19,439	23,644	23,644	1,000	U
129	Physical Security Equipment	A	109,825	101,982	101,982	15,890	U
130	Enterprise Information Technology	A	88,799	19,789	19,789		U
Other							
133	Next Generation Enterprise Service	A	84,176	104,584	104,584		U
999	Classified Programs		11,575	23,707	23,707	2,200	U
Total Personnel & Command Support Equip			391,606	376,329	376,329	56,540	

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c -
Budget Activity 07: Personnel & Command Support Equip											

Training Devices											
120	Training Support Equipment	A									U
121	Training and Education Equipment	A									U
Command Support Equipment											
122	Command Support Equipment	A	21,650		7,650				7,650		U
123	Medical Support Equipment	A									U
125	Naval MIP Support Equipment	A									U
126	Operating Forces Support Equipment	A	15,800								U
127	C4ISR Equipment	A									U
128	Environmental Support Equipment	A	1,000								U
129	Physical Security Equipment	A	15,890		3,100				3,100		U
130	Enterprise Information Technology	A									U
Other											
133	Next Generation Enterprise Service	A									U
999	Classified Programs		2,200								U
Total Personnel & Command Support Equip			56,540		10,750				10,750		

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Exhibit P-1 FY 2019 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
Budget Activity 07: Personnel & Command Support Equip						

Training Devices						
120	Training Support Equipment	A				U
121	Training and Education Equipment	A	25,624		25,624	U
Command Support Equipment						
122	Command Support Equipment	A	88,376		88,376	U
123	Medical Support Equipment	A	4,383		4,383	U
125	Naval MIP Support Equipment	A	2,030		2,030	U
126	Operating Forces Support Equipment	A	23,300		23,300	U
127	C4ISR Equipment	A	4,010		4,010	U
128	Environmental Support Equipment	A	24,644		24,644	U
129	Physical Security Equipment	A	120,972		120,972	U
130	Enterprise Information Technology	A	19,789		19,789	U
Other						
133	Next Generation Enterprise Service	A	104,584		104,584	U
999	Classified Programs		25,907		25,907	U
			-----	-----	-----	
Total Personnel & Command Support Equip			443,619		443,619	

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Total Obligational Authority
(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 07: Personnel & Command Support Equip -----									
Training Devices									
120	Training Support Equipment	A		3,400			3,400		U
121	Training and Education Equipment	A		24,283			24,283		U
Command Support Equipment									
122	Command Support Equipment	A		66,681			66,681		U
123	Medical Support Equipment	A		3,352		6,500	9,852		U
125	Naval MIP Support Equipment	A		1,984			1,984		U
126	Operating Forces Support Equipment	A		15,131			15,131		U
127	C4ISR Equipment	A		3,576			3,576		U
128	Environmental Support Equipment	A		31,902		2,200	34,102		U
129	Physical Security Equipment	A		175,436		19,389	194,825		U
130	Enterprise Information Technology	A		25,393			25,393		U
Other									
133	Next Generation Enterprise Service	A		96,269			96,269		U
999	Classified Programs			15,681		4,800	20,481		U
				-----		-----	-----		
Total Personnel & Command Support Equip				463,088		32,889	495,977		

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(Dollars in Thousands)

Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2017 (Base + OCO) Quantity Cost	FY 2018 PB Request with CR Adj Base Quantity Cost	FY 2018 Total PB Requests* with CR Adj Base Quantity Cost	FY 2018 PB Request with CR Adj OCO Quantity Cost	S e c
----	-----	-----	-----	-----	-----	-----	-
Budget Activity 08: Spares and Repair Parts							

Spares and Repair Parts							
134	Spares and Repair Parts	A	199,627	278,565	278,565	1,178	U
			-----	-----	-----	-----	
	Total Spares and Repair Parts		199,627	278,565	278,565	1,178	
Budget Activity 20: Undistributed							

Undistributed							
135	Adj to Match Continuing Resolution	A		-1,692,780	-1,692,780	31,024	U
			-----	-----	-----	-----	
	Total Undistributed			-1,692,780	-1,692,780	31,024	
			-----	-----	-----	-----	
	Total Other Procurement, Navy		6,651,966	6,585,009	6,210,084	251,083	

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Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests+ with CR Adj OCO Quantity	Cost	FY 2018 Emergency Requests** Emergency Quantity	Cost	FY 2018 Less Enacted Div B P.L.115-96*** MDDE + Ship Repairs Quantity	Cost	FY 2018 Remaining Req Emergency Quantity	Cost	S e c
Budget Activity 08: Spares and Repair Parts											

Spares and Repair Parts											
134	Spares and Repair Parts	A	1,178								U
			-----		-----		-----		-----		
Total Spares and Repair Parts			1,178								
Budget Activity 20: Undistributed											

Undistributed											
135	Adj to Match Continuing Resolution	A	-476								U
			-----		-----		-----		-----		
Total Undistributed			-476								
			-----		-----		-----		-----		
Total Other Procurement, Navy			251,083		25,750				25,750		

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Line No	Item Nomenclature	Ident Code	FY 2018 Total PB Requests* with CR Adj Base + OCO + Emergency** Quantity Cost	FY 2018 Less Enacted DIV B P.L.115-96*** MDDE + Ship Repairs Quantity Cost	FY 2018 Remaining Req with CR Adj Base + OCO + Emergency Quantity Cost	S e c -
----	-----	-----	-----	-----	-----	
Budget Activity 08: Spares and Repair Parts						

Spares and Repair Parts						
134	Spares and Repair Parts	A	279,743		279,743	U
			-----	-----	-----	
	Total Spares and Repair Parts		279,743		279,743	
Budget Activity 20: Undistributed						

Undistributed						
135	Adj to Match Continuing Resolution	A	-1,719,006		-1,719,006	U
			-----	-----	-----	
	Total Undistributed		-1,719,006		-1,719,006	
			-----	-----	-----	
	Total Other Procurement, Navy		6,461,167		6,461,167	

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Appropriation: 1810N Other Procurement, Navy

Line No	Item Nomenclature	Ident Code	FY 2019 Base Quantity	Cost	FY 2019 OCO Quantity	Cost	FY 2019 Total Quantity	Cost	S e c
----	-----	-----	-----	----	-----	----	-----	----	-
Budget Activity 08: Spares and Repair Parts									

Spares and Repair Parts									
134	Spares and Repair Parts	A	326,838				326,838		U
			-----		-----		-----		
	Total Spares and Repair Parts		326,838				326,838		
Budget Activity 20: Undistributed									

Undistributed									
135	Adj to Match Continuing Resolution	A							U
			-----		-----		-----		
	Total Undistributed								
			-----		-----		-----		
	Total Other Procurement, Navy		9,414,355		187,173		9,601,528		

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22	01	09	0981	Items less than \$5 Million.....	Volume 1 - 523
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25	01	10	1010	Reactor Power Units.....	Volume 1 - 609
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27	01	11	1130	Diving and Salvage Equipment.....	Volume 1 - 617
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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 2: Ship Gun System Equipment							P-1 Line Item Number / Title: 5111 / Ship Gun Systems Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	10.867	6.191	5.277	5.337	0.000	5.337	5.451	5.571	5.681	5.794	5.059	55.228
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	10.867	6.191	5.277	5.337	0.000	5.337	5.451	5.571	5.681	5.794	5.059	55.228
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	10.867	6.191	5.277	5.337	0.000	5.337	5.451	5.571	5.681	5.794	5.059	55.228
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.007	-	-	-	-	-	-	-	-	-	0.007
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:
Ship gun system equipment provides funds for the procurement of equipment, material and Ordnance Alterations to improve combat effectiveness and logistic supportability for gun and mission planning systems, and ancillary support equipment.

P40A - 1/ The Naval Fires Control System is an automated mission planning and coordination system for the Naval Surface Fire Support (NSFS) System. It automates shipboard land attack battle management duties to be interoperable and consistent with joint C4ISR systems. The system significantly improves the Navy's ability to support forces ashore. These improvements provide enhanced capabilities and reduce total ownership costs by improving reliability and supportability of in-service systems. This system also reduces manning requirements for NSFS missions.

[P40A - 2 / NV039 Night Vision Devices]: Procures new Night Vision Devices (NVD) for ships and shore sites. Provides replacement of NVD and NVD Test Equipment.

[P40A - 2 / NV051 Optical Sight Systems Production Improvement]: Procures various Product Improvements for MK46 OSS/MK20 Electro-Optical Sight System (EOSS) on DDG 51 and CG 47 Class ships. The OSS is an integral element of the MK 34 Gun Weapon System. These improvements provide enhanced force protection capabilities, improve availability to address increase in Fleet underway operations, and reduce total ownership costs by improved reliability and supportability of in-service equipment systems. System and component improvements include: Mod 0 Technical Refresh, upgrade of Daylight Imaging Sensor Field of View, system power supplies, Mod 0 console / monitor upgrade, system obsolescence replacement and component level product improvements.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 2: Ship Gun System Equipment						P-1 Line Item Number / Title: 5111 / Ship Gun Systems Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Naval Fires Control Sys	P-5a			- / 1.424	- / 0.710	- / 0.383	- / 0.387	- / -	- / 0.387
P-40a	Gun Fire Control Equipment				- / 9.443	- / 5.481	- / 4.894	- / 4.950	- / -	- / 4.950
P-40	Total Gross/Weapon System Cost				- / 10.867	- / 6.191	- / 5.277	- / 5.337	- / 0.000	- / 5.337
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown. Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
Justification: Note: Before FY15, the programs were previously reported under budget line items (5209 and 5112).										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 2						P-1 Line Item Number / Title: 5111 / Ship Gun Systems Equipment									Aggregated Items Title: Naval Fires Control Sys					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
2) INSTALLATION																				
2.1) FC0002 Installation of NFCS Equipment ^(†)	A		245,000.00	1	0.245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.2) FC010 Product Improvement/ORDALT	A		-	-	0.630	-	-	0.336	-	-	0.180	-	-	0.182	-	-	-	-	-	0.182
2.3) FC011 Installation of ORDALT	A		-	-	0.213	-	-	0.164	-	-	0.092	-	-	0.093	-	-	-	-	-	0.093
2.4) FC830 Production Engineering Support (NFCS)	A		-	-	0.336	-	-	0.210	-	-	0.111	-	-	0.112	-	-	-	-	-	0.112
Subtotal: 2) INSTALLATION			-	-	1.424	-	-	0.710	-	-	0.383	-	-	0.387	-	-	-	-	-	0.387
Total			-	-	1.424	-	-	0.710	-	-	0.383	-	-	0.387	-	-	-	-	-	0.387

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 2				P-1 Line Item Number / Title: 5111 / Ship Gun Systems Equipment					Aggregated Items: Naval Fires Control Sys			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
2) INSTALLATION												
2.1) FC0002 Installation of NFCS Equipment		2015	VARIOUS / VARIOUS	WR	NAVSEA	Apr 2015	Jul 2015	1	245,000.00	Y		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 2						P-1 Line Item Number / Title: 5111 / Ship Gun Systems Equipment									Aggregated Items Title: Gun Fire Control Equipment ⁽¹⁾					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Equipment																				
1.1) NV039 Night Vision Devices	A		-	-	4.604	-	-	2.171	-	-	2.287	-	-	2.316	-	-	-	-	-	2.316
1.2) NV051 Optical Sight Systems Production Improvement	A		-	-	4.839	-	-	3.310	-	-	2.607	-	-	2.634	-	-	-	-	-	2.634
Subtotal: 1) Equipment			-	-	9.443	-	-	5.481	-	-	4.894	-	-	4.950	-	-	-	-	-	4.950
Total			-	-	9.443	-	-	5.481	-	-	4.894	-	-	4.950	-	-	-	-	-	4.950

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Footnotes:

⁽¹⁾ This program provides for the procurement of equipment, materials and Ordnance Alterations to improve combat effectiveness and maintain logistic supportability of Gun Fire Control Equipment, Optical Sight Systems (OSS) and Night Vision devices.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	420.827	307.447	274.795	213.090	0.000	213.090	288.118	303.262	330.198	340.984	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	420.827	307.447	274.795	213.090	0.000	213.090	288.118	303.262	330.198	340.984	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	420.827	307.447	274.795	213.090	0.000	213.090	288.118	303.262	330.198	340.984	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	8.192	4.299	4.447	-	4.447	2.612	3.663	4.105	4.507	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The FY 2019 funding request was reduced by \$11.136 million in NATO Seasparrow, \$ \$21.8 million in AEGIS Support Equipment, and \$29.598 in Anti-ship Missile Decoy System to account for the availability of prior year execution balances. The FY 2019 funding request for RAM GMLS was reduced by \$6.5 million to provide a more stable procurement ramp through the FYDP.

Ship Missile Support Equipment provides procurement and installation support to address fleet requirements for AEGIS Weapons System, Ships Self Defense System (SSDS), Vertical Launch System (VLS), NATO Seasparrow, Rolling Airframe Missile(RAM) Guided Missile Launcher System (GMLS), Anti-Ship Missile Decoy System NULKA, and Over The Horizon Weapon System (OTH WS).

Improved Stalker (I-Stalker) FY 18- FY 19

Improved situational awareness aboard CVNs and large deck amphibious ships; Accelerate fielding of integrated Stalker/SAws to meet the Fleet need for improved situational awareness.

\$10.6M of FY19 funding supports procurement of additional Improved Stalker systems in support the continued Navy response to Joint Urgent Operational Need CC-0558 for Counter Unmanned Aerial Systems (C-UAS). More information available at a higher classification.

[P40A / NATO SEASPARROW]: The NATO SEASPARROW Surface Missile System (NSSMS) is a shipboard Self-Defense Missile System. In addition to the standard mission of Anti-Air and Anti-Surface Defense (AAW, ASUW), NSSMS is designed to protect ship and crew from a variety of inbound threats, including Anti-Ship Cruise Missiles (ASCM), Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC), Low Velocity Air Threats (LVAT), and a wide range of asymmetrical threats (e.g. Unmanned Aerial and Surface vehicles, small Rigid Hull Inflatable Boats, etc).

Primary operations consist of acquiring targets either manually using radar search or Electro Optic/Infrared capability, or automatically via external or internal designations, generation of fire-control quality track data for engage ability determination, launcher control and missile initialization, queuing of other weapons (e.g. Rolling Airframe Missile) via the Ship Self Defense System (SSDS) or AN/SWY 3/5 Combat System, RIM-7H/M/P SEASPARROW missile and RIM-162D Evolved SEASPARROW Missile (ESSM) firing, target illumination for Missile Guidance and Visual Kill/Survive and Battle Damage Assessments.

NSSMS provides manual or fully automatic operation with provisions for operator intervention or override from the time of target designation to missile away. The legacy NSSMS configuration consists of Fire Control and Launcher Systems comprised of 2-4 Directors, a distributed computing network, Transmitter Group, 3-5 Operating Consoles, and 1-2 Eight-Cell missile Launchers which employ the surface launch variant of the Sparrow and ESSM. The RIM-7 and RIM-162 missiles use semi-active guidance with target illumination provided by the shipboard MK 9/95 fire control systems. NSSMS MK 57 Mods 12 and higher (ESSM capable) are integrated with the SSDS and become part of the SSDS MK 2 Combat System on CVN 68, LHA 6 and LHD 7-8 class ships. Starting with the Ford Class (CVN 78), the Guided Missile Launching System (GMLS) is segmented from the MK 57 and interfaces directly to the SSDS Combat System; the CVN 78 effort is referred to as NSSMS Objective Configuration OC Phase 1 (OCP 1).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment		P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>NSSMS Objective Configuration Phase 2 (OCP 2) consists of the segmenting the MK 9 Track Illuminator System (TIS) to interface directly to with SSDS Combat System, as well as eliminating all MK 57 watch stations. This watch station elimination dramatically reduces system life cycle costs for hardware, software, manning, training and maintenance and obsolescence requirements, also allowing the Navy to divest of RIM-7 and associated infrastructure. Recent SSDS FRB activity has also created an incentive to consider MK 9 performance improvements opportunities.</p> <p>MK 29 modernization efforts address a variety of issues with the legacy MK 132 above deck launcher equipment, including achieving the desired Grade A shock qualification, solving missile loading/loader beam safety issues, missile environmental issues and future ESSM compatibility.</p> <p>The NSSMS is a NATO Cooperative Project with 12 participating Governments; Australia, Belgium, Canada, Denmark, Germany, Greece, Norway, The Netherlands, Portugal, Spain, Turkey and the United States. The NSSMS and associated systems of the Cooperative Project were developed, produced and are supported under Department of Defense (DoD) International Memorandums of Understanding (MOU).</p> <p>Funding provides for (1) equipment modernization, (2) NATO SEASPARROW Objective Configuration (OC) program consisting of segmenting and automating MK 9 Track Illuminator System interfacing directly to the SSDS Combat System, and (3) Stalker Long Range Electro-Optic Sensor System.</p> <p>The MK 57 NSSMS continues to be evolved to provide credible ship self defense. These equipment modernization upgrades will result in the ability of the MK 57 System to support future mission requirements. NSSMS MK 57 Mods 12 and higher (ESSM capable) are integrated with the SSDS and become part of the SSDS MK 2 Combat System.</p> <p>The NATO SEASPARROW OC program consists of segmenting and automating the MK 9 Track Illuminator System (TIS) interfacing directly to the SSDS Combat System, eliminating all MK 57 watch stations, reducing system hardware, providing annual cost avoidance/savings, avoiding non-recurring engineering associated with integrating with CDS/CPS and allowing the Navy to divest of RIM-7 and associated infrastructure. Recent SSDS FRB activity has also created an incentive to consider MK 9 performance improvements opportunities. MK 132 Modernization (above deck launcher portion of MK 29 GMLS) allows for the upgrades necessary to address a variety of issues with this legacy equipment, including Grade A shock deficiencies with the current design when employed with ESSM, missile loading issues, missile environmental issues and future ESSM capability. The FY13 funding allocation on the Solid State Transmitter (SSTx) funding line is earmarked to support MK 9 improvements/modernization being driven by the FY12 SSDS combat system wholeness FRB/FLCIP initiate. The funding will be used to procure 1 set of MK 9 improvements/modernization related qualification hardware and associated engineering efforts. In contrast, the SSTx funding shown for FY14 and out will be used to procure production SSTx units.</p> <p>Improved Stalker (I-Stalker) will provide incremental improvements to the currently fielded Stalker Long Range Electro-Optic Sensor System (SLREOSS) in response to a 2016 United States Fleet Forces Command (USFFC) Operational Needs Statement (ONS). SLREOSS was developed as a modular, portable, form/fit replacement for the NATO Sea Sparrow Missile System (NSSMS) MK 6 Low Light Level Television (LLTV) in response to the 2010 Naval Forces Central Command (NAVCENT) Counter Swarm Urgent Operational Need (UON) to combat Fast Attack Craft/Fast Inshore Attack Craft (FAC/FIAC). It is currently being fielded in either the NSSMS MK6 MOD 3 LLLTV Director Mount configuration or NSSMS MK6 MOD 4 LLLTV Independent Mount configuration depending on platform specifications. I-Stalker will provide required upgrades to the SLREOSS Independent Mount configuration with the enhanced capabilities provided by the Navy owned Situational Awareness System (SAwS) to deliver an integrated radar and electro-optic/Infrared control and display suite.</p> <p>[P40A - 2 / RAM GMLS]: Rolling Airframe Missile (RAM) - MK 49 Guided Missile Launching System (GMLS): RAM is a cooperative program with the Federal Republic of Germany, produced under a series of production MOUs/MOAs (the latest was signed on 19 March 2013) executed between the U.S. and the Federal Republic of Germany.</p> <p>The MK-31 Guided Missile Weapon System (GMWS) is a lightweight, quick-reaction, high firepower missile system designed to provide anti-ship missile defense. The system is comprised of a MK-44 Guided Missile Round Pack (GMRP) and the MK 49 GMLS, which holds 21 RAM missiles. The 21-round launcher is compatible with various platforms ranging from large USN aircraft carriers to Littoral Combat Ship (LCS). This system is designed to counter high density anti-ship, cruise missile raids and provide for ship survivability with accurate terminal guidance, proven lethality and no fire control illumination dependence.</p> <p>Funding profile directly supports final installations and associated efforts of RAM Mod 3 upgrades on LSD class ships in accordance with ships installation/availability schedule. Installation funding includes DSA planning and actual installation costs. Without this upgrade the Ship Self Defense System (SSDS) on these ships will only be able to fire RAM in manual mode. Funding also supports the procurement and installation of Tech Refresh/Safety/IA ORDALTS required to field RAM BLK 2A capabilities for increased performance in a raid environment while also addressing obsolescence. The RAM Firepower ORDALT</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
increases the number of RAM Block 2B missiles fired to meet self defense PRA requirements against evolving threat raid scenarios. Without this ORDALT, L-class and CVNs will not be able to defend against emergent raid scenarios. The firepower ORDALT and associated software enables full use of the RAM Block 2B missile against raids.		
[P40A - 3 / Ship Self Defense System]: The Ship Self Defense System (SSDS) is the core combat system control element for the Quick Reaction Combat Capability (QRCC) in aircraft carriers and amphibious assault ships to defend against Anti-Ship Cruise Missiles (ASCM). SSDS integrates a diverse set of fire control loop sensors and weapons, and C4I systems for each ship class (CVN68/78, LHA6, LHD1, LPD17, and LSD41/49 ship classes). SSDS MK2 provides the capabilities for integrated air and missile defense, multi-warfare situational awareness, combat direction, and joint interoperability via the Cooperative Engagement Capability (CEC) and Tactical Digital Information Link (TADIL)-J (Link 16). SSDS MK2 is being fielded with the new construction carriers (CVN78 class) and amphibious ships (LHA6, LPD17 classes). SSDS MK2 is replacing the Advanced Combat Direction System (ACDS) in the LHD1 class, and SSDS MK1 in the LSD 41/49 class, as fleet modernization initiatives.		
SSDS MK2 integrates new combat system warfighting capabilities and improvements on phased basis via Advanced Capability Builds (ACB), Technology Insertion (TI), the Fire Control Loop Improvement Project (FCLIP), Far-Term Interoperability Improvement Project (FTIIP), and Task Force Cyber Awakening (TFCA) Boundary Defense Capability. New hardware Technology Insertion baselines are required every four years to refresh the Commercial-Off-The-Shelf (COTS) assemblies to sustain system production and to support the incorporation of new ACB/war-fighting capabilities. Each individual ship is planned for a Technology Insertion upgrade on an eight to ten year interval to replace obsolescent COTS hardware and support the fielding of the capabilities. Technology refresh of individual COTS assemblies that are unprocurable or unsupported is handled on a case basis.		
SHIP SELF DEFENSE SYSTEM (SSDS) MK 1 provides ship self defense capabilities against Anti-Ship Cruise Missiles (ASCM) for LSD 41/49 class ships. It integrates several existing stand-alone sensor and Anti-Air Warfare weapons systems to provide an automated detect-to-engage capability against low flying, high speed ASCMs with low radar cross sections in the littoral environment. System design emphasizes physically distributed non-developmental items, commercial standards and computer program reuse in an open system architecture computer network. It includes a command table that uses components of the Navy's AN/UYQ-70 standard display for human-system interface, commercially available local area network access units and circuit cards, and commercially available fiber optic cabling. SSDS MK 1 requires a COTS obsolescence technology insertion and transitioned to an SSDS MK2 Open Architecture Computing Environment(OACE)beginning with FY10 procurement for shore sites and lead ship installation in the LSD 50 in FY14.		
SHIP SELF DEFENSE SYSTEM (SSDS) MK 2 provides Advance Combat Direction System (ACDS) functionality and SSDS MK1 capabilities with additional weapon and sensor elements. It is integrated with Cooperative Engagement Capability (CEC) and tactical data links to provide joint interoperability for Aircraft Carriers and Amphibious Ships. It provides enhanced capabilities for Force Protection against air, surface, and subsurface threats using both own-ship and remote data in support of the Anti-Air Warfare (AAW) Capstone Requirements. SSDS MK2 increases operational capabilities, improves combat readiness and Strike Group and Expeditionary Strike Group interoperability. SSDS MK 2 equips back-fit LHDs and CV(N)s with an upgraded Combat System Display, Automatic Status Board (ASTABS), Remote ASTAB Controllers, peripheral control stations and Advanced Sensor Distribution System (ASDS), as well as, the SSDS MK 2 computing equipment. Prior year procurement of SSDS MK 2 equipment included shore-based SSDS MK 2 equipment and full combat system suites for the Ship Combat System Center (SCSC), Wallops Island, Virginia; maintenance and operator training equipment at the Center for Surface Combat Systems (CSCS), Dam Neck, Virginia; and an equipment suite for the Self Defense Test Ship (SDTS), the SSDS MK2 System Integration Lab (SIL), Raytheon IDS, San Diego, and the Integrated Combat System Test Facility, at Naval Surface Warfare Center Dahlgren. FY17-FY23 includes the procurement of COTS Conversion Kits for CVNs, LPDs, LHDs, LHAs and LSDs, and COTS Upgrade Kits / field changes for the shore sites used for SSDS software development/ maintenance, training, and Combat System integration and certification testing. SSDS procurement also includes various Commercial Off The Shelf (COTS) based systems and equipment used within the integrated combat system. The COTS conversion kits will support Navy Open Architecture computing environment standards to facilitate software reuse. FY13-FY18 kits are based on a Technology Insertion - 12 (TI-12) and Technology Insertion - 12 Hybrid (TI-12H) configurations. FY16-FY21 transitions to the TI-16 configuration with procurement for shore sites starting in FY16 and procurement for ships starting in FY17(SCN), FY19 for OPN. FY20-21 transitions to the TI-16 Hybrid (TI-16H) configuration. FY21-24 transitions to the TI-22 configuration. Due to prior year budget constraints, the TI-16 hardware development, production and associated ACB-12 software migration have been delayed. In order to support critical Ship Combat System modernization installation schedules involving many other CS elements, production of the TI-12 configuration has been extended for SSDS MK 2 with technology refresh of un-procurable components (designated TI-12H). This has impacted the FY16 and FY17 execution and FY18 plans. The budget cost estimates for the procurement and installation of the kits varies depending on the specific ship class (CVNs, LPDs, LSDs, LHAs, and LHDs), and the existing configuration of the ship or shore site. The cost estimates for individual COTS conversion kits and their associated installation costs are included in the footnotes of exhibit P3A (for UQ005B). For FY19-FY23, (UQ005)includes procurement of Cyber Security Equipment in support of fielding of Cyber Security capabilities as part of SSDS MK-2 Ship Modernization. In FY18, equipment will be procured for SSDS Shore Sites Integration and test of Cyber Security equipment to support Cyber Security Wholeness. A new project unit will be added for the execution of Cyber Security efforts.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment		P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>P40A exhibits for SSDS includes the following:</p> <p>[P40A - 3 (SSDS) / UQ002 - Production Engineering support for SSDS hardware. [P40A - 3 (SSDS) / UQ003 - Engineering Change Proposal (ECP) and Ship Change Document (SCD) for SSDS hardware. [P40A - 3 (SSDS) / UQ004 - Training Documentation Changes for SSDS hardware. [P40A - 3 (SSDS) / UQ005A - COTS Engineering / Obsolescence Kits/Field Changes for SSDS hardware. [P40A - 3 (SSDS) / UQ007 - Combat System Ships Qualification Trials (CSSQT) [P40A - 3 (SSDS) / UQ008 - Combat System Documentation & Support [P40A - 3 (SSDS) / TBD - Cyber Security</p> <p>Combat System Ships Qualification Trials (CSSQTs) are designated for CVNs and AMPHIBs in accordance with NAVSEAINST 9093.1C. CSSQTs will validate installation and performance of Combat System (CS) upgrades, and will ensure crew can operate and maintain the new systems. The execution phase of CSSQT is required to verify/validate CS performance and to qualify the ship and ships forces ability to properly operate and maintain the upgraded ship in an at-sea, Surface Warfare (SUW) and Anti-Air Warfare (AAW) environment. PB17 only included CSSQT for LHD1 Class CS/SSDS MK2 upgrades. PB18 includes the CSSQT funding for all of the CVN and Amphibious class ships that will undergo CS/SSDS MK2 upgrades.</p> <p>[P40A - 3 (SSDS) / UQ008 - Combat System Documentation & Support Provides for generation, update, and validation of CS documentation as a result of CS configuration changes during ship modernization. This includes the following Ship Selected Records (SSRs)for CVN, LHD, LHA, LPD 17 and LSD 41/49 Class Ships. PB18 includes CS documentation and support for all of the CVN and Amphibious class ships that will undergo CSI SSDS MK2 upgrades. Combat System Operations Sequencing System (CSOSS) - Provides detailed, ship specific procedures to configure the CS for tactical operations, training and casualty reconfiguration. Capabilities and Limitations (C&L) - provides ship CS AAW and SUW capabilities and limitations tailored to the specific ship CS configuration. CS Interface Diagrams (CSID) - provide essential information for troubleshooting CS inter-systems casualties. Combat System Alignment Manual (CSAM) - provides detailed test and alignment procedures for a specific ship. CSAM is used to ensure that all sensors, weapons, navigation and the Landing Indicator Systems are optically, mechanically, and electronically aligned to the ship's Alignment Reference plane. Overall CS Operability Test (OCSOT) - is a CS test from Detect through Engage to demonstrate material condition readiness of the integrated CS.</p> <p>Support includes planning with Ship Program Manager (SPM) for CS modernization across CVN and Amphibious class ships, head-quarter's support, and liaison with local Regional Maintenance Centers (RMC), CS Waterfront Engineers, and NSWC PHD support for Installation Coordination Teams.</p> <p>P3A exhibits for SSDS includes the following: [P3A - 3 (SSDS) / UQ005B - Procurement and installation of SSDS Open Architecture Computing Environment (OACE) COTS conversion Kits and upgrade kits for CVN, LHD, LHA, LPD, and LSD class ships and shore sites.</p> <p>[P40A - 3 / UQ007 - Combat System Ship Qualification Trial (CSSQT)]: For UQ007-PB17 only included CSSQT funding for LHD1 Class CS/SSDS MK2 upgrades. PB18 includes the CSSQT funding for all of the CVN and Amphibious class ships that will undergo CS/SSDS MK2 upgrades. FY18 and FY19 each include CSSQT for one ship. FY20-FY22 includes 3,4, and 3 CSSQTs respectively. The cost of the CSSQT varies across ship classes based on the CS weapons configuration (LPD-CS with RAM/MK46, LSD-CS with RAM/CIWS, CVN/LHA/LHD-CS with RAM/ESSM/CIWS).</p> <p>[P40A - 3 / UQ008 - Combat System Documentation & Support]: PB17 only included CS Documentation and Support for the LHD1 Class CS/SSDS MK2 upgrades. PB18 includes the CS Documentation and Support for all of the CVN and Amphibious class ships that will undergo CS/SSDS MK2 upgrades. FY18 procurement includes 3 ships representing 2 ship class CS configurations. FY19 procurement includes 4 ships encompassing 3 ship class CS configurations. The waterfront and modernization support in UQ008 also increases between FY17 and FY18 and out to include all of the ships undergoing modernization.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment		P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P40A - 4 / AEGIS Support Equipment]: Provides equipment procurement and installation support for AEGIS Shore Facilities and Shipboard Upgrades to AEGIS Cruisers and Destroyers required to maintain the readiness of the AEGIS Weapon System in support of Combatant Commanders requirements.</p> <p>L7001: Provides funding to procure and maintain special test equipment (Adaptive Diagnostic Electronic Portable Test Set(ADEPT)/Radiation Probes) to support Maintenance and Troubleshooting efforts for the AEGIS Weapon System on Deployed Units and Critical shore sites.</p> <p>L7003: Provides funding to procure and maintain IWSL Weapons System and support infrastructure to support fleet issues resolution within the AEGIS Weapon System.</p> <p>L7006: Provides funding to procure and maintain SCSC Weapons and Combat systems and support infrastructure to support fleet training requirements and integration and test efforts required to complete Weapon and Combat System Certification.</p> <p>L7007: Provides funding to procure and maintain ATRC Weapons and Combat systems and support infrastructure to support fleet training requirements for the AEGIS Weapon System.</p> <p>L7011: Provides funding to address fleet hardware issues related to equipment obsolescence, high failure, or to reduce maintenance costs and improve the readiness of the AEGIS Fleet.</p> <p>L7012: Provides Radar Refurbishment to support AEGIS DDG 53-78 in support of AEGIS BL 5.3 Update planned to field in FY18.</p> <p>L7014: Provides SPY 1D/DV radar enhancements for AEGIS DDGs to improve radar reliability</p> <p>L7015: AEGIS Integration and Installation support for 4 DDG to receive SEARAM upgrade</p> <p>L7600: Provides funding to complete installation of ORDALTS and other Ship Changes designed to improve the readiness of the AEGIS Combat System.</p>		
<p>[P40A - 5 / Vertical Launch Systems]: The MK-41 Vertical Launching System (VLS) is a surface combatant missile launching system, designed to store, select and launch various STANDARD Missile configurations, TOMAHAWK, Tactical TOMAHAWK, EVOLVED SEASPARROW (ESSM) and Vertical Launch ASROC (Anti Submarine ROcket) (VLA) missiles. The MK-41 VLS significantly improves missile capacity, flexibility, multi-mission capability, reaction time and rate of fire and is designed to be adaptable to present and future weapon systems. Current configurations are: two 61 cell launchers, forward and aft, for 22 TICONDEROGA (CG 47) Class Cruisers beginning with CG-52; one 61 cell aft and one 29 cell launcher forward for 28 ARLEIGH BURKE (DDG 51) Class Destroyers; and one 64 cell launcher aft and one 32 cell launcher forward for 34 DDG 51 FLT IIA ships.</p>		
<p>The OPN requirements procure Engineering Change Proposals/Ordnance Alterations (ECP/ORDALT) and funds sustaining engineering support for Fleet investigations and safety issues. Funds are required for Fleet operational availability, capability, safety and survivability. There are no significant increases or decreases in this program.</p>		
<p>[P40A - 6 / ANTI SHIP MISSILE DECOY SYSTEM]: The Anti-Ship Missile Decoy Program covers a family of decoys and the equipment to deploy them. It is an essential element of the Anti-Ship Missile Defense tactics to counter the threat of enemy homing missiles. NULKA is a joint program with Australia, and is currently in service with the Australian, Canadian, and United States Navies. NULKA consists of the Decoy Launching System (DLS) (MK 53) and Offboard Active Decoy (MK 234). This line contains various equipment and subsystems for a system which will provide the capability to defeat the effectiveness of hostile Anti-Ship cruise missiles. The MK 53 DLS consists of a Decoy Launch Processer (DLP), launching power supplies, and from two to six launchers depending on the ship class. Each launcher is capable of storing and launching two Nulka decoys. The MK 53 DLS provides the launch authorization and flight demands to the Nulka decoy when a Nulka engagement is initiated by the EW operator. The MK 53 DLS has been installed on the CG 47, DDG 51, FFG 7, LSD 41, and LSD 49 Classes in prior years. Installation of the MK 53 DLS on CVNs began in FY14 and it will be installed on nine carriers. The first DLS for CVNs was procured under the previous OPN budget (BLI 5530). The final eight are being procured under this budget. The DLF-3B (MK 59) decoy systems responded to an urgent operational need by providing an initial limited interim decoy capability to the Fleet.</p>		
<p>The Advanced Decoy Architecture Project (ADAP) is EW payload developed under an ONR program that targets specific threats that the current payload on the Nulka decoy does not. The ADAP payload provides an advanced Electronic Warfare (EW) transmitter and increased signal processing capability.</p>		
<p>[P40A - 7 / OTH PROCUREMENT]: The Over The Horizon Weapon System (OTH WS) provides the Littoral Combat Ship/Frigate (LCS/FF) with long range anti-surface offensive capability against the full range of surface combatants (Fast Attack Craft to Capital Warships). The OTH WS consists of a Missile Launch System and a complement of missiles. Missile Launch System components include a Launch Mechanism, Operator Interface, and Fire Control System.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy			Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment			P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment		
ID Code (A=Service Ready, B=Not Service Ready): A		Program Elements for Code B Items: N/A		Other Related Program Elements: N/A	
Line Item MDAP/MAIS Code: N/A					

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	NATO SEASPARROW	P-5a			- / 60.361	- / 18.508	- / 40.781	- / 26.183	- / -	- / 26.183
P-40a	RAM GMLS				- / 7.157	- / 1.727	- / 3.938	- / 6.070	- / -	- / 6.070
P-40a	Ship Self Defense System				- / 17.303	- / 12.187	- / 11.316	- / 13.931	- / -	- / 13.931
P-40a	AEGIS Support Equipment				- / 164.394	- / 147.040	- / 76.236	- / 33.692	- / -	- / 33.692
P-40a	Vertical Launch Systems				- / 1.435	- / 0.623	- / 0.660	- / 0.667	- / -	- / 0.667
P-40a	ANTI SHIP MISSILE DECOY SYSTEM	P-5a, P-21			- / 46.551	- / 49.544	- / 54.753	- / 21.414	- / -	- / 21.414
P-40a	OTH Weapon System				- / 0.000	- / -	- / -	- / 2.874	- / -	- / 2.874
P-3a	1 / NATO SEASPARROW (NSSMS Mk 57)				- / 5.763	- / 15.389	- / 9.825	- / 12.335	- / 0.000	- / 12.335
P-3a	2 / UR006 RAM MK-49 GMLS ORDALTS (NON-FMP Install)				- / 6.995	- / 6.448	- / 3.862	- / 10.088	- / 0.000	- / 10.088
P-3a	3 / UQ005B - SSDS COTS CONVERSION KITS (TBD)				- / 63.872	- / 42.733	- / 61.770	- / 75.000	- / 0.000	- / 75.000
P-3a	4 / VV001 NULKA SYSTEMS (TBD)				- / 18.633	- / 6.333	- / 6.533	- / 6.838	- / 0.000	- / 6.838
P-3a	5 / VV003 ENGINEERING CHANGES AND LOGISTICS SUPPORT (TBD)				- / 7.812	- / 5.453	- / 5.121	- / 3.998	- / 0.000	- / 3.998
P-3a	6 / VV831 DLF-3B SYSTEMS (TBD)				- / 20.551	- / 1.462	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-3a	7 / OTH Weapon System Installation (TBD)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 420.827	- / 307.447	- / 274.795	- / 213.090	- / 0.000	- / 213.090
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	NATO SEASPARROW	P-5a			- / -	- / -	- / -	- / -	- / -	- / -
P-40a	RAM GMLS				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Ship Self Defense System				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	AEGIS Support Equipment				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	Vertical Launch Systems				- / -	- / -	- / -	- / -	- / -	- / -
P-40a	ANTI SHIP MISSILE DECOY SYSTEM	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -
P-40a	OTH Weapon System				- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / NATO SEASPARROW (NSSMS Mk 57)				- / 13.047	- / 0.000	- / 0.000	- / 3.670	- / 0.000	- / 60.029
P-3a	2 / UR006 RAM MK-49 GMLS ORDALTS (NON-FMP Install)				- / 4.707	- / 7.345	- / 6.826	- / 6.065	- / 75.300	- / 127.636
P-3a	3 / UQ005B - SSDS COTS CONVERSION KITS (TBD)				- / 70.769	- / 72.383	- / 70.967	- / 76.481	- / 26.192	- / 560.167
P-3a	4 / VV001 NULKA SYSTEMS (TBD)				- / 6.363	- / 4.997	- / 0.000	- / 0.000	- / 0.026	- / 49.723
P-3a	5 / VV003 ENGINEERING CHANGES AND LOGISTICS SUPPORT (TBD)				- / 4.271	- / 4.318	- / 4.388	- / 5.017	- / 0.000	- / 40.378
P-3a	6 / VV831 DLF-3B SYSTEMS (TBD)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.001	- / 22.014
P-3a	7 / OTH Weapon System Installation (TBD)				- / 0.000	- / 1.956	- / 3.984	- / 4.061	Continuing	Continuing

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment					P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40	Total Gross/Weapon System Cost				- / 288.118	- / 303.262	- / 330.198	- / 340.984	Continuing	Continuing

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3						P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Aggregated Items Title: NATO SEASPARROW					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
1) EQUIPMENT MODERNIZATION - US005																					
1.1) Objective Configuration Engineering	A		-	-	10.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.2) MISSILE LAUNCHER UPGRADE	A		-	-	31.100	-	-	13.077	-	-	14.200	-	-	4.619	-	-	-	-	-	4.619	
1.3) PRODUCTION SUPPORT	A		-	-	3.000	-	-	1.500	-	-	1.500	-	-	1.500	-	-	-	-	-	1.500	
1.5) LHD UPGRADE (1)	A		-	-	14.415	-	-	3.931	-	-	19.413	-	-	9.465	-	-	-	-	-	9.465	
Subtotal: 1) EQUIPMENT MODERNIZATION - US005			-	-	58.515	-	-	18.508	-	-	35.113	-	-	15.584	-	-	-	-	-	15.584	
2) STALKER - US005																					
2.1) STALKER PRODUCTION SUPPORT	A		-	-	1.846	-	-	-	-	-	0.408	-	-	0.525	-	-	-	-	-	0.525	
Subtotal: 2) STALKER - US005			-	-	1.846	-	-	-	-	-	0.408	-	-	0.525	-	-	-	-	-	0.525	
3) I-Stalker - US005																					
3.1) I-Stalker Kits ^(†)	A		-	-	-	-	-	-	500,000.00	8	4.000	500,000.00	12	6.000	-	-	-	500,000.00	12	6.000	
3.2) I-Stalker Install	A		-	-	-	-	-	-	-	-	1.260	-	-	4.074	-	-	-	-	-	4.074	
Subtotal: 3) I-Stalker - US005			-	-	0.000	-	-	-	-	-	5.260	-	-	10.074	-	-	-	-	-	10.074	
Total			-	-	60.361	-	-	18.508	-	-	40.781	-	-	26.183	-	-	-	-	-	26.183	
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																					
(†) indicates the presence of a P-5a																					
Footnotes:																					
(1) (1) MLU increases in FY18, 19 coincidence with significant Govovernment qualification, integration and test effort in those years. (2) LHD upgrade increases in FY17, 18 coincide with NSSM depot efforts in support of LHD upgrade avails in FY18, 19, 20.																					

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3			P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Aggregated Items: NATO SEASPARROW				
Item Number / Title [DODIC]	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty <i>(Each)</i>	Unit Cost <i>(\$)</i>	Specs Avail Now?	Date Revision Available	RFP Issue Date
3) I-Stalker - US005												
3.1) I-Stalker Kits		2018	BALL / Westminster, CO	C / FFP	NSWC Crane	Feb 2018	Dec 2018	8	500,000.00	Y		Nov 2017
3.1) I-Stalker Kits		2019	BALL / Westminster, CO	C / FFP	NSWC Crane	Nov 2018	Sep 2019	12	500,000.00	Y		Nov 2017

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3							P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment								Aggregated Items Title: RAM GMLS ⁽²⁾					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) UR006 RAM MK-49 GMLS ORDALTS ⁽³⁾																				
1.1) UR006 RAM MK-49 GMLS ORDALTS	A		-	-	1.657	-	-	1.727	-	-	3.804	-	-	5.865	-	-	-	-	-	5.865
Subtotal: 1) UR006 RAM MK-49 GMLS ORDALTS			-	-	1.657	-	-	1.727	-	-	3.804	-	-	5.865	-	-	-	-	-	5.865
2) UR901 Systems Improvements ⁽⁴⁾																				
2.1) UR901 System Improvement	A		-	-	5.500	-	-	-	-	-	0.134	-	-	0.205	-	-	-	-	-	0.205
Subtotal: 2) UR901 Systems Improvements			-	-	5.500	-	-	-	-	-	0.134	-	-	0.205	-	-	-	-	-	0.205
Total			-	-	7.157	-	-	1.727	-	-	3.938	-	-	6.070	-	-	-	-	-	6.070
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
Footnotes:																				
⁽²⁾ NSWC Port Hueneme provides installation oversight support as the In-Service Engineering Activity (ISEA) for the RAM GMLS system.																				
⁽³⁾ These funds provide for GMLS production support, systems engineering, logistics, Ship Change Designs (SCD), Engineering Change Proposals (ECP), ship drawings for ORDALT instructions as well as information assurance (IA) compliance and safety and Interactive Electronic Technical Manuals (IETM). Funding increased in FY18-FY21 to support RAM Blk 2B Firepower ORDALTS to meet self defense PRA requirements against evolving threat raid scenarios and development and fielding of associated software.																				
⁽⁴⁾ Provides for procurement and installation of critical RAM system improvement and safety ORDALTs																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3							P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment								Aggregated Items Title: Ship Self Defense System ⁽⁵⁾					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Ship Self Defense System (SSDS) ⁽⁶⁾																				
1.1) UQ002 - SSDS Production Support	A		-	-	3.387	-	-	1.522	-	-	1.548	-	-	1.574	-	-	-	-	-	1.574
1.2) UQ003 - SSDS ECP / SCD	A		-	-	0.387	-	-	0.199	-	-	0.202	-	-	0.205	-	-	-	-	-	0.205
1.3) UQ004 - SSDS Training	A		-	-	1.414	-	-	0.725	-	-	0.737	-	-	0.750	-	-	-	-	-	0.750
1.4) UQ005A - SSDS COTS Eng/Obsolescence Kits	A		-	-	6.915	-	-	2.756	-	-	2.945	-	-	2.950	-	-	-	-	-	2.950
1.5) UQ007 - Combat System Ship Qualification Trial (CSSQT)	A		-	-	5.200	-	-	4.603	-	-	3.154	-	-	4.103	-	-	-	-	-	4.103
1.6) UQ008 - Combat System Documentation & Support	A		-	-	-	-	-	2.382	-	-	2.730	-	-	4.349	-	-	-	-	-	4.349
Subtotal: 1) Ship Self Defense System (SSDS)			-	-	17.303	-	-	12.187	-	-	11.316	-	-	13.931	-	-	-	-	-	13.931
Total			-	-	17.303	-	-	12.187	-	-	11.316	-	-	13.931	-	-	-	-	-	13.931

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Footnotes:

⁽⁵⁾ See P-40 Description (on page 3) for the description of each item listed in P-40a (UQ002, UQ003, UQ004, UQ005A, UQ007, and UQ008).

⁽⁶⁾ In FY2016, \$5.2M of SSDS funds were reprogramed from UQ005B - COTS Upgrade Kits for Shore Sites to UQ007 - CSSQT to support essential CSSQT requirements for LSD Class SSDS MK2/Combat System Upgrade in LSD45 and LSD52. ⁽⁷⁾ In FY2016, \$2.082M of SSDS funds were re-designated from UQ005B - COTS Upgrade Kits for shore sites to UQ005A - COTS Engineering/Obsolescence Kits to fund critical COTS assemblies/kits for Diminishing Manufacturing Source (DMS) parts to extend the production and fielding of the TI-12 configuration with the TI-12H configuration, and to fund an emergent requirement for COTS High Speed Guard equipment for the Self Defense Test Ship CVN78 SSDS configuration for network Cyber Security Protection.

⁽⁸⁾ In FY2017, \$1.431M of SSDS funds were re-designated from UQ005B - COTS Conversion Kits to UQ007 for the completion of CSSQT in the LSD Class ships (LSD51 and LSD52) in addition to the conduct of CSSQT in the LHD2. ⁽⁹⁾ In FY2017, \$0.805M of SSDS funds were re-designated from UQ005B - COTS Conversion Kits to UQ008 for CS Documentation and support for the LSD Class Ships (LSD49 and LSD52) in addition to the LHD2 requirements. ⁽¹⁰⁾ In FY17, two TI-12H COTS Conversion Kits in UQ005B for ships ((1) for CVN and (1) for L-Class) were re-designated to shore sites due to a combination of factors, including the reduction in shore site procurement in UQ005B in FY16 and FY17 for higher priority requirements (CSSQT, DMS parts and cyber security equipment), and the impact of the delayed FY17 equipment procurement on the availability schedules for the two ships.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3								P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment							Aggregated Items Title: AEGIS Support Equipment ⁽⁷⁾					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Aegis Support Equipment																				
1.1) L7001 - Depot Special Tooling/Test Equipment	A		-	-	8.123	-	-	4.092	-	-	4.086	-	-	4.095	-	-	-	-	-	4.095
1.2) L7003 - Integrated Warfare Systems Laboratory ⁽⁸⁾	A		-	-	1.317	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1.3) L7006 - Surface Combat Systems Center Equipment	A		-	-	69.394	-	-	34.884	-	-	7.034	-	-	5.541	-	-	-	-	5.541	
1.4) L7007 - Aegis Training and Readiness Center Upgrade ⁽⁹⁾	A		-	-	30.698	-	-	22.667	-	-	5.488	-	-	3.578	-	-	-	-	3.578	
1.5) L7011 - Aegis Weapon System Ship Change Procurement	A		-	-	32.438	-	-	11.583	-	-	12.684	-	-	12.332	-	-	-	-	12.332	
1.6) L7012 - SPY 1D/DV Radar Enhancements ⁽¹⁰⁾	A		-	-	-	-	-	24.000	-	-	15.700	-	-	-	-	-	-	-	-	
1.7) L7014 - SPY Radar Refurbishment	A		-	-	-	-	-	40.200	-	-	24.996	-	-	-	-	-	-	-	-	
1.8) L7015 - AEGIS SEARAM Intergration and Installation Support	A		-	-	-	-	-	-	-	-	-	-	-	1.400	-	-	-	-	1.400	
1.10) L7600 - Aegis Support Equipment Installation	A		-	-	22.424	-	-	9.614	-	-	6.248	-	-	6.746	-	-	-	-	6.746	
Subtotal: 1) Aegis Support Equipment			-	-	164.394	-	-	147.040	-	-	76.236	-	-	33.692	-	-	-	-	33.692	
Total			-	-	164.394	-	-	147.040	-	-	76.236	-	-	33.692	-	-	-	-	33.692	

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Footnotes:

⁽⁷⁾ Provides equipment procurement and installation support for AEGIS Shore Facilities and Shipboard Upgrades to AEGIS Cruisers and Destroyers required to maintain the readiness of the AEGIS Weapon System in support of Combatant Commanders requirements. Combat System Procurements: L7001: Special Tools & Test Equipment L7003: Computers, Displays, and Simulators for Integrated Warfare Systems Laboratory (IWSL) at Dahlgren, VA L7006: Weapon/Combat System Equipment for Surface Combat System Center (SCSC) at Wallops Island, VA L7007: Weapon/Combat System Equipment for AEGIS Readiness Training Center (ATRC) at Dahlgren, VA L7011: AEGIS Weapon System Procurements to support Ship Change Documents L7012: AEGIS Weapon System Procurements to support AEGIS SPY-1D/DV Enhancements for AEGIS DDGs (APLS) L7014: AEGIS Weapon System Procurements to support SPY Refurbishments in support of AEGIS BL 5.3.X Upgrade planned to field in FY18. L7015: AEGIS Integration and Installation support for 4 DDG to receive SEARAM upgrade L7027: AEGIS Software License Procurements to support Shore Facilities and In-Service Ship L7600: AEGIS Installation support for approved ship changes

⁽⁸⁾ Eliminates procurement outfitting and maintenance of the Integrated Warfare System Laboratory (IWSL) beyond FY15

⁽⁹⁾ FY16 to FY17 increase is to procure AEGIS 20 Hardware to support AEGIS ACB 20 Technician and Operator Training to support fleet introduction of DDG 51 FLT III.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Aggregated Items Title: AEGIS Support Equipment ⁽⁷⁾
⁽¹⁰⁾ Establish budget line to procure SPY Radar Refurbishments in support of AEGIS BL 5.3.X Upgrades planned for fielding in FY18. Procures 1 SPY Array set to establish rotatable pools to support installation timelines.		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3						P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment									Aggregated Items Title: Vertical Launch Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Vertical Launch Systems																				
1.1) VLS ORDALTS	A		-	-	0.922	-	-	0.392	-	-	0.422	-	-	0.438	-	-	-	-	-	0.438
1.2) VLS PRODUCTION ENGINEERING	A		-	-	0.406	-	-	0.177	-	-	0.184	-	-	0.174	-	-	-	-	-	0.174
Subtotal: 1) Vertical Launch Systems			-	-	1.328	-	-	0.569	-	-	0.606	-	-	0.612	-	-	-	-	-	0.612
2) 5A5IN Install Equipment N86 ⁽¹¹⁾																				
2.1) 5A5IN Install Equipment N86	A		-	-	0.107	-	-	0.054	-	-	0.054	-	-	0.055	-	-	-	-	-	0.055
Subtotal: 2) 5A5IN Install Equipment N86			-	-	0.107	-	-	0.054	-	-	0.054	-	-	0.055	-	-	-	-	-	0.055
Total			-	-	1.435	-	-	0.623	-	-	0.660	-	-	0.667	-	-	-	-	-	0.667

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

Footnotes:

⁽¹¹⁾ VLS ORDALT Installation

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3								P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment							Aggregated Items Title: ANTI SHIP MISSILE DECOY SYSTEM				

Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) VV002 - NULKA DECOYS ⁽¹²⁾																				
1.1) NULKA DECOYS ^(†)	A		1,773K	12	21.271	1,456K	21	30.566	1,215K	43	52.251	1,450K	13	18.853	-	-	-	1,450K	13	18.853
Subtotal: 1) VV002 - NULKA DECOYS			-	-	21.271	-	-	30.566	-	-	52.251	-	-	18.853	-	-	-	-	-	18.853
2) VV830 - PRODUCTION ENGINEERING ⁽¹³⁾																				
2.1) PRODUCTION ENGINEERING	A		-	-	4.673	-	-	1.778	-	-	2.502	-	-	2.561	-	-	-	-	-	2.561
Subtotal: 2) VV830 - PRODUCTION ENGINEERING			-	-	4.673	-	-	1.778	-	-	2.502	-	-	2.561	-	-	-	-	-	2.561
3) VV832 - DLF-3B DECOYS																				
3.1) VV832 DLF-3B DECOYS	A		-	-	0.998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 3) VV832 - DLF-3B DECOYS			-	-	0.998	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) VV833 - DLF-3B LOGISTICS/PRODUCTION SUPPORT																				
4.1) VV833 DLF-3B LOGISTICS/ PRODUCTION SUPPORT	A		-	-	0.780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 4) VV833 - DLF-3B LOGISTICS/PRODUCTION SUPPORT			-	-	0.780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5) VV004 - ADAP PAYLOAD																				
5.1) ADAP PAYLOAD ^(†)	A		537,971.43	35	18.829	452,632.00	38	17.200	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 5) VV004 - ADAP PAYLOAD			-	-	18.829	-	-	17.200	-	-	-	-	-	-	-	-	-	-	-	-
Total			-	-	46.551	-	-	49.544	-	-	54.753	-	-	21.414	-	-	-	-	-	21.414

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

(†) indicates the presence of a P-5a

Footnotes:

⁽¹²⁾ VV002: Procurement of MK 234 NULKA Decoys. The FY17 unit cost (\$1456K) is based on a total procurement of 33 decoys (21 procured with 5231/OPN and 12 procured by Australia). The FY18 unit cost (\$1215K) is based on a total procurement of 43 decoys (31 procured with 5231/OPN and 12 procured by Australia). The FY19 unit cost (\$1450K) is based on a total procurement of 25 decoys (13 procured with 5231/OPN and 12 procured by Australia). Increase in FY18 VV002 decoys procurement (PB17) due to budget increase of \$2.4M to replenish decoys expended in defense of USS MASON in October 2016.

⁽¹³⁾ VV830: Production Engineering support to the MK 234 NULKA Decoy.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Aggregated Items: ANTI SHIP MISSILE DECOY SYSTEM			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) VV002 - NULKA DECOYS												
1.1) NULKA DECOYS ^(†)		2016	BAES / AUSTRALIA	C / FFP	US Embassy, Canberra	Mar 2016	May 2017	12	1,773K	Y		
1.1) NULKA DECOYS ^(†)		2017	BAES / AUSTRALIA	C / FFP	US Embassy, Canberra	Jul 2017	Sep 2018	21	1,456K	Y		
1.1) NULKA DECOYS ^(†)		2018	BAES / AUSTRALIA	C / FFP	US Embassy, Canberra	Mar 2018	May 2019	43	1,215K	Y		
1.1) NULKA DECOYS ^(†)		2019	BAES / AUSTRALIA	C / FFP	US Embassy, Canberra	Mar 2019	May 2020	13	1,450K	Y		
5) VV004 - ADAP PAYLOAD												
5.1) ADAP PAYLOAD ^(†)		2016	EXELIS / NJ	C / FFP	Naval Research Lab	Apr 2016	Oct 2017	35	537,970.00	Y		
5.1) ADAP PAYLOAD ^(†)		2017	EXELIS / NJ	C / FFP	Naval Research Lab	Aug 2017	Feb 2019	38	452,632.00	Y		

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Aggregated Items: ANTI SHIP MISSILE DECOY SYSTEM												
Items <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017														BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1) VV002 - NULKA DECOYS																																
1.1) NULKA DECOYS																																
	1	2016	NAVY	12	0	12							A -	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	7	
	1	2017	NAVY	21	0	21																			A -	-	-	21				
	1	2018	NAVY	43	0	43																								43		
	1	2019	NAVY	13	0	13																								13		
5) VV004 - ADAP PAYLOAD																																
5.1) ADAP PAYLOAD																																
	2	2016	NAVY	35	0	35							A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	
	2	2017	NAVY	38	0	38																								A -	-	38
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Aggregated Items: ANTI SHIP MISSILE DECOY SYSTEM																
Items <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019														BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT	Calendar Year 2018										Calendar Year 2019																			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1) VV002 - NULKA DECOYS																																				
1.1) NULKA DECOYS																																				
	1	2016	NAVY	12	5	7	1	1	1	1	1	1	1																			0				
	1	2017	NAVY	21	0	21	-	-	-	-	-	-	-	-	-	-	1	2	2	2	2	2	1	1	2	2	2	2				0				
	1	2018	NAVY	43	0	43						A	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	3	4	3		26				
	1	2019	NAVY	13	0	13																					A	-	-	-	-	-	-	-		13
5) VV004 - ADAP PAYLOAD																																				
5.1) ADAP PAYLOAD																																				
	2	2016	NAVY	35	0	35	2	3	3	3	3	3	3	3	3	3	3															0				
	2	2017	NAVY	38	0	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	4	3	3	4	3				13				
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment																			Aggregated Items: ANTI SHIP MISSILE DECOY SYSTEM									
Items <i>(Units in Each)</i>							Fiscal Year 2020													Fiscal Year 2021													BALANCE					
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT				Calendar Year 2020										Calendar Year 2021																		
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								
1) VV002 - NULKA DECOYS																																						
1.1) NULKA DECOYS																																						
	1	2016	NAVY	12	12	0																											0					
	1	2017	NAVY	21	21	0																											0					
	1	2018	NAVY	43	17	26	4	3	4	3	4	4	4																				0					
	1	2019	NAVY	13	0	13	-	-	-	-	-	-	-	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	0								
5) VV004 - ADAP PAYLOAD																																						
5.1) ADAP PAYLOAD																																						
	2	2016	NAVY	35	35	0																											0					
	2	2017	NAVY	38	25	13	4	3	3	3																							0					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy				Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3			P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment			Aggregated Items: ANTI SHIP MISSILE DECOY SYSTEM	

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	BAES - AUSTRALIA			192	0	6	12	18	0	0	12	12
2	EXELIS - NJ				0	0	12	12	0	0	12	12

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3						P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment									Aggregated Items Title: OTH Weapon System					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) Ship Missile Support Equipment																				
1) OTH PROCUREMENT	A		-	-	-	-	-	-	-	-	-	2,874K	1	2.874	-	-	-	2,874K	1	2.874
Subtotal: 1) Ship Missile Support Equipment			-	-	0.000	-	-	-	-	-	-	-	-	2.874	-	-	-	-	-	2.874
Total			-	-	0.000	-	-	-	-	-	-	-	-	2.874	-	-	-	-	-	2.874

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 1 / NATO SEASPARROW

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	5.763	15.389	9.825	12.335	0.000	12.335	13.047	0.000	0.000	3.670	0.000	60.029
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	5.763	15.389	9.825	12.335	0.000	12.335	13.047	0.000	0.000	3.670	0.000	60.029
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	5.763	15.389	9.825	12.335	0.000	12.335	13.047	0.000	0.000	3.670	0.000	60.029
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Equipment procured on the P3a makes up the NSSMS Mk 57 Mod 14 (L class) systems that are planned for installation on six LHD 1 class ships. An NSSMS Mk 57 Mod 14 system is comprised of the following:

For LHD 1, 3, 5 - (2) Transmitter Upgrades (SSTX), (2) Integrated Radar Processors (IRPs), (2) ESSM ORDALTs and (2) System Launcher Controllers (SLCs) are required for each of those ships.

For LHD 2, 4, 6 - These ships already have the SSTX ORDALT installed, so only (2) Integrated Radar Processors (IRPs), (2) ESSM ORDALTs, and (2) System Launcher Controllers (SLCs) are required for each of those ships.

Overall acquisition lead time for the Radar group is comprised of the contract award-to-delivery time of the new NSSMS components to the NSSMS depot, where these items are incorporated into existing equipment, tested, and delivered to the shipyard for ship installation. Production lead time for SLCs and IRPs is 18 months ACA; for SSTX ORDALTs lead time is 24 months ACA. It then takes the NSSMS depot 12 months to overhaul existing equipment and install newly procured upgrades into existing Radar group components, depending upon overall NSSMS depot workload. The nominal timeline for delivering an upgraded NSSMS shipset to the shipyard is 36 ACA months.

ESSM Blk 2 launcher (MLU) backfit installations to CVNs and selected L class ships will occur in FY22-25.

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Exhibit P-3a, Individual Modification: PB 2019 Navy								Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment				Modification Number / Title: 1 / NATO SEASPARROW					
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: MK 57				Modification Type: NSSMS Mk 57				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 2: Radar Group													
A Kits													
Non-Recurring													
1.1.1) SOLID STATE TRANSMITTER UPGRADE (SSTX) - NonOrganic ⁽¹⁴⁾	2 / 0.000	2 / 4.644	- / -	2 / 5.500	- / -	2 / 5.500	- / -	- / -	- / -	- / -	- / -	6 / 10.144	
1.1.2) INTEGRATED RADAR PROCESSOR (IRP) - NonOrganic ⁽¹⁵⁾	4 / 0.000	4 / 2.149	2 / 1.085	- / -	- / -	- / -	2 / 1.105	- / -	- / -	- / -	- / -	12 / 4.339	
1.1.3) TEST SUPPORT - Organic	- / -	- / 0.030	- / 0.034	- / 0.038	- / -	- / 0.038	- / 0.015	- / -	- / -	- / -	- / -	- / 0.117	
1.1.4) COTS OBSOLESCENCE - Organic	- / -	- / 0.296	- / 0.315	- / 0.333	- / -	- / 0.333	- / 0.100	- / -	- / -	- / -	- / -	- / 1.044	
1.1.5) ECP'S - Organic	- / -	- / 0.030	- / 0.034	- / 0.038	- / -	- / 0.038	- / 0.020	- / -	- / -	- / -	- / -	- / 0.122	
Subtotal: Non-Recurring	- / 0.000	- / 7.149	- / 1.468	- / 5.909	- / -	- / 5.909	- / 1.240	- / -	- / -	- / -	- / 0.000	- / 15.766	
Subtotal: Radar Group	6 / 0.000	6 / 7.149	2 / 1.468	2 / 5.909	- / -	2 / 5.909	2 / 1.240	- / -	- / -	- / -	- / -	18 / 15.766	
Modification Item 2 of 2: Launcher Group													
B Kits													
Non-Recurring													
2.1.1) ESSM ORDALT - NonOrganic ⁽¹⁶⁾	6 / 0.000	4 / 2.542	2 / 1.360	- / -	- / -	- / -	2 / 1.440	- / -	- / -	- / -	- / -	14 / 5.342	
2.1.2) SYSTEM LAUNCHER/CONTROLLER (SLC) - NonOrganic ⁽¹⁷⁾	6 / 0.000	4 / 2.148	2 / 1.095	- / -	- / -	- / -	2 / 1.115	- / -	- / -	- / -	- / -	14 / 4.358	
2.1.3) TEST SUPPORT - Organic	- / -	- / 0.030	- / 0.034	- / -	- / -	- / -	- / 0.036	- / -	- / -	- / -	- / -	- / 0.100	
2.1.4) ECP'S - Organic	- / -	- / 0.260	- / 0.280	- / -	- / -	- / -	- / 0.050	- / -	- / -	- / -	- / -	- / 0.590	
Subtotal: Non-Recurring	- / 0.000	- / 4.980	- / 2.769	- / -	- / -	- / -	- / 2.641	- / -	- / -	- / -	- / 0.000	- / 10.390	
Subtotal: Launcher Group	12 / 0.000	8 / 4.980	4 / 2.769	- / -	- / -	- / -	4 / 2.641	- / -	- / -	- / -	- / -	28 / 10.390	
Subtotal: Procurement, All Modification Items	- / 0.000	- / 12.129	- / 4.237	- / 5.909	- / -	- / 5.909	- / 3.881	- / -	- / -	- / -	- / 0.000	- / 26.156	
Support (All Modification Items)													
3.1) Launcher Support	- / 1.470	- / 1.470	- / 1.470	- / 1.470	- / -	- / 1.470	- / 1.470	- / -	- / -	- / -	- / -	- / 7.350	
4.1) Radar Support	- / 0.500	- / 1.490	- / 1.490	- / 1.490	- / -	- / 1.490	- / 1.490	- / -	- / -	- / -	- / -	- / 6.460	
Subtotal: Support	- / 1.970	- / 2.960	- / 2.960	- / 2.960	- / -	- / 2.960	- / 2.960	- / -	- / -	- / -	- / 0.000	- / 13.810	
Installation													
Modification Item 1 of 2: Radar Group	- / 0.866	- / 0.100	- / 0.899	- / 1.724	- / 0.000	- / 1.724	- / 2.672	- / 0.000	- / 0.000	- / 1.825	- / 0.000	- / 8.086	
Modification Item 2 of 2: Launcher Group	- / 2.927	- / 0.200	- / 1.729	- / 1.742	- / 0.000	- / 1.742	- / 3.534	- / 0.000	- / 0.000	- / 1.845	- / 0.000	- / 11.977	
Subtotal: Installation	- / 3.793	- / 0.300	- / 2.628	- / 3.466	- / -	- / 3.466	- / 6.206	- / -	- / -	- / 3.670	- / 0.000	- / 20.063	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 1 / NATO SEASPARROW				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: MK 57				Modification Type: NSSMS Mk 57					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Total													
Total Cost (Procurement + Support + Installation)		5.763	15.389	9.825	12.335	0.000	12.335	13.047	0.000	0.000	3.670	0.000	60.029

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 1 / NATO SEASPARROW											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 2: Radar Group																															
Manufacturer Information																															
Manufacturer Name: Raytheon															Manufacturer Location: Portsmouth, RI																
Administrative Leadtime (in Months): 3															Production Leadtime (in Months): 24																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Aug 2017								Aug 2019																					
Delivery Dates		Aug 2019								Aug 2022																					
Installation Information																															
Method of Implementation: Alteration Installation Team (AIT):: Installation Name: SOLID STATE TRANSMITTER UPGRADE (SSTX)																															
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)								
Prior Years		- / -	- / -		- / -		2 / 0.826		0 / 0.000		2 / 0.826		- / -		- / -		- / -		- / -		0 / 0.000		2 / 0.826								
FY 2017		- / -	- / -		- / -		- / -		- / -		- / -		2 / 0.846		- / -		- / -		- / -		0 / 0.000		2 / 0.846								
FY 2018		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2019		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.925		0 / 0.000		2 / 0.925								
FY 2020		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2021		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2022		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2023		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
To Complete		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
Total		- / -	- / -		- / -		2 / 0.826		0 / 0.000		2 / 0.826		2 / 0.846		- / -		- / -		2 / 0.925		0 / 0.000		6 / 2.597								
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	6
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-	6
Method of Implementation: Alteration Installation Team (AIT):: Installation Name: Integrated Radar Processor (IRP)																															
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)								
Prior Years		2 / 0.866	- / -		2 / 0.899		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		4 / 1.765								

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 1 / NATO SEASPARROW

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 2: Radar Group

Installation Information

Method of Implementation: Alteration Installation Team (AIT):: Installation Name: Integrated Radar Processor (IRP)

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
FY 2017	- / -	- / -	- / -	2 / 0.898	0 / 0.000	2 / 0.898	2 / 0.927	- / -	- / -	- / -	0 / 0.000	4 / 1.825
FY 2018	- / -	0 / 0.100	- / -	- / -	- / -	- / -	2 / 0.899	- / -	- / -	- / -	0 / 0.000	2 / 0.999
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.900	0 / 0.000	2 / 0.900
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2 / 0.866	0 / 0.100	2 / 0.899	2 / 0.898	0 / 0.000	2 / 0.898	4 / 1.826	- / -	- / -	2 / 0.900	0 / 0.000	12 / 5.489

Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	2	-	-	-	-	-	-	-	2	2	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	12
Out	-	-	-	2	-	-	-	-	-	-	-	-	4	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	2	-	12

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 1 / NATO SEASPARROW												
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																	
Modification Item 2 of 2: Launcher Group																																
Manufacturer Information																																
Manufacturer Name: Raytheon															Manufacturer Location: Portsmouth, RI																	
Administrative Leadtime (in Months): 3															Production Leadtime (in Months): 17																	
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023						
Contract Dates		Aug 2017				Aug 2018								Aug 2020																		
Delivery Dates		Mar 2019				Mar 2020								Mar 2022																		
Installation Information																																
Method of Implementation: Alteration Installation Team (AIT):: Installation Name: ESSM ORDALT																																
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total									
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)									
Prior Years		4 / 1.501		- / -		2 / 0.920		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		6 / 2.421								
FY 2017		- / -		0 / 0.200		- / -		2 / 0.936		0 / 0.000		2 / 0.936		2 / 0.946		- / -		- / -		- / -		0 / 0.000		4 / 2.082								
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.936		- / -		- / -		- / -		0 / 0.000		2 / 0.936								
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.945		0 / 0.000		2 / 0.945								
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
Total		4 / 1.501		0 / 0.200		2 / 0.920		2 / 0.936		0 / 0.000		2 / 0.936		4 / 1.882		- / -		- / -		2 / 0.945		0 / 0.000		14 / 6.384								
Installation Schedule																																
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
In	4	-	-	-	-	-	-	-	2	-	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	14
Out	2	-	-	2	-	-	-	-	-	-	-	-	2	-	2	4	-	-	-	-	-	-	-	-	-	-	-	-	2	-	14	
Method of Implementation: Alteration Installation Team:: Installation Name: SYSTEM LAUNCHER/CONTROLLER (SLC)																																
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total									
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)									
Prior Years		4 / 1.426		- / -		2 / 0.809		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		6 / 2.235								

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 1 / NATO SEASPARROW											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 2 of 2: Launcher Group																															
Installation Information																															
Method of Implementation: Alteration Installation Team:: Installation Name: SYSTEM LAUNCHER/CONTROLLER (SLC)																															
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																		
		<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>																	
FY 2017		- / -	- / -	- / -	2 / 0.806	0 / 0.000	2 / 0.806	2 / 0.826	- / -	- / -	- / -	0 / 0.000	4 / 1.632																		
FY 2018		- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.826	- / -	- / -	- / -	0 / 0.000	2 / 0.826																		
FY 2019		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2020		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 0.900	0 / 0.000	2 / 0.900																		
FY 2021		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2022		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2023		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
To Complete		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
Total		4 / 1.426	- / -	2 / 0.809	2 / 0.806	0 / 0.000	2 / 0.806	4 / 1.652	- / -	- / -	2 / 0.900	0 / 0.000	14 / 5.593																		
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	4	-	-	-	-	-	-	-	2	-	-	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	14
Out	2	-	-	2	-	-	-	-	-	-	-	-	2	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	2	-	14
Footnotes: ⁽¹⁴⁾ Each installed NSSMS Radar group includes one Solid State Transmitter (SSTX). Each LHD receives two Radar groups and therefore two SSTXs. (Note: LHD 2, 4, 6 received SSTX upgrades in prior years.) FY19 LHD 3 receives 2 SSTX ORDALTs, FY20 LHD 1 receives 2 SSTX ORDALTs, FY23 LHD 5 receives 2 SSTX ORDALTs. ⁽¹⁵⁾ Each installed NSSMS Radar group includes one IRP; each LHD receives two Radar groups and therefore two IRPs. FY16 LHD 2 received 2 IRPs, FY18 LHD 6 receives 2 IRPs, FY19 LHD 3 receives 2 IRPs, FY19 LHD 3 receives 2 IRPs, FY20 LHD 1 receives 2 IRPs, FY23 LHD 5 receives 2 IRPs. ⁽¹⁶⁾ Each installed NSSMS Launcher group includes one launcher ESSM ORDALT. Each LHD receives two Launcher groups and therefore two ESSM ORDALTs. FY16 LHD 2 received 2 ESSM ORDALTs, FY18 LHD 6 receives 2 ESSM ORDALTs, FY19 LHD 3 receives 2 ESSM ORDALTs, FY20 LHD 1 receives 2 ESSM ORDALTs, FY20 LHD 4 receives 2 ESSM ORDALTs, FY23 LHD 5 receives 2 ESSM ORDALTs. ⁽¹⁷⁾ Each installed NSSMS Launcher group includes one System Launcher Controller (SLC). Each LHD receives two Launcher groups and therefore two SLCs. FY16 LHD 2 received 2 SLCs, FY18 LHD 6 receives 2 SLCs, FY19 LHD 3 receives 2 SLCs, FY20 LHD 1 receives 2 SLCs, FY20 LHD 4 receives 2 SLCs, FY23 LHD 5 receives 2 SLCs.																															

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy							Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment				Modification Number / Title: 2 / UR006 RAM MK-49 GMLS ORDALTS			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	6.995	6.448	3.862	10.088	0.000	10.088	4.707	7.345	6.826	6.065	75.300	127.636
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	6.995	6.448	3.862	10.088	0.000	10.088	4.707	7.345	6.826	6.065	75.300	127.636
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	6.995	6.448	3.862	10.088	0.000	10.088	4.707	7.345	6.826	6.065	75.300	127.636
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Rolling Airframe Missile is a lightweight, quick-reaction, high firepower missile system designed to provide anti-ship missile defense. The system (MK-31 GMWS) is comprised of a MK-44 Guided Missile Round Pack (GMRP) and the MK 49 Guided Missile Launching System (GMLS), which holds 21 RAM missiles. The 21-round launcher is compatible with various platforms, ranging from large USN amphibious assault ships to Littoral Combat Ship (LCS). This system is designed to counter high density anti-ship, cruise missile raids and provide for ship survivability with accurate terminal guidance, proven lethality and no fire control illumination dependence.

Procurement and installation of RAM MK 49 GMLS critical ORDALTS on CVN, LSD, LPD, LHA, LHD and LCS class ships.

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Exhibit P-3a, Individual Modification: PB 2019 Navy								Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 2 / UR006 RAM MK-49 GMLS ORDALTS				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:						
Models of Systems Affected: MK 49 GMLS			Modification Type: NON-FMP Install					Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: UR006 RAM MK-49 GMLS ORDALTS													
B Kits													
Recurring													
1.1.1) UR006 RAM MK-49 GMLS ORDALTS - NonOrganic ⁽¹⁸⁾		20 / 5.168	8 / 4.767	8 / 2.900	13 / 8.400	- / -	13 / 8.400	10 / 4.707	10 / 4.795	10 / 4.890	10 / 5.000	104 / 62.400	193 / 103.027
Subtotal: Recurring		- / 5.168	- / 4.767	- / 2.900	- / 8.400	- / -	- / 8.400	- / 4.707	- / 4.795	- / 4.890	- / 5.000	- / 62.400	- / 103.027
Subtotal: UR006 RAM MK-49 GMLS ORDALTS		20 / 5.168	8 / 4.767	8 / 2.900	13 / 8.400	- / -	13 / 8.400	10 / 4.707	10 / 4.795	10 / 4.890	10 / 5.000	104 / 62.400	193 / 103.027
Subtotal: Procurement, All Modification Items		- / 5.168	- / 4.767	- / 2.900	- / 8.400	- / -	- / 8.400	- / 4.707	- / 4.795	- / 4.890	- / 5.000	- / 62.400	- / 103.027
Installation													
Modification Item 1 of 1: UR006 RAM MK-49 GMLS ORDALTS		- / 1.827	- / 1.681	- / 0.962	- / 1.688	- / 0.000	- / 1.688	- / 0.000	- / 2.550	- / 1.936	- / 1.065	- / 12.900	- / 24.609
Subtotal: Installation		- / 1.827	- / 1.681	- / 0.962	- / 1.688	- / -	- / 1.688	- / -	- / 2.550	- / 1.936	- / 1.065	- / 12.900	- / 24.609
Total													
Total Cost (Procurement + Support + Installation)		6.995	6.448	3.862	10.088	0.000	10.088	4.707	7.345	6.826	6.065	75.300	127.636

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Exhibit P-3a, Individual Modification: PB 2019 Navy							Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment				Modification Number / Title: 2 / UR006 RAM MK-49 GMLS ORDALTS				
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Modification Item 1 of 1: UR006 RAM MK-49 GMLS ORDALTS												
Manufacturer Information												
Manufacturer Name: Raytheon Co ⁽¹⁹⁾							Manufacturer Location: Tucson AZA					
Administrative Leadtime (in Months): 0							Production Leadtime (in Months): 18					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023					
Contract Dates	Dec 2016	Mar 2018										
Delivery Dates	Jun 2018	Sep 2019										
Manufacturer Name: Raytheon Co ⁽²⁰⁾							Manufacturer Location: Tucson AZA					
Administrative Leadtime (in Months): 0							Production Leadtime (in Months): 24					
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023					
Contract Dates			Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022					
Delivery Dates			Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024					
Installation Information												
Method of Implementation: NON-FMP Install:: Installation Name: UR006 RAM MK-49 GMLS ORDALTS												
Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	6 / 1.827	10 / 1.681	- / -	2 / 0.700	0 / 0.000	2 / 0.700	- / -	- / -	- / -	- / -	2 / 0.000	20 / 4.208
FY 2017	- / -	- / -	8 / 0.962	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	8 / 0.962
FY 2018	- / -	- / -	- / -	8 / 0.988	0 / 0.000	8 / 0.988	- / -	- / -	- / -	- / -	0 / 0.000	8 / 0.988
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	13 / 2.550	- / -	- / -	0 / 0.300	13 / 2.850
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.936	- / -	0 / 0.000	10 / 1.936
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.065	0 / 0.200	10 / 1.265
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.000	10 / 1.000
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 1.000	10 / 1.000
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	104 / 10.400	104 / 10.400
Total	6 / 1.827	10 / 1.681	8 / 0.962	10 / 1.688	0 / 0.000	10 / 1.688	- / -	13 / 2.550	10 / 1.936	10 / 1.065	126 / 12.900	193 / 24.609

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Exhibit P-3a, Individual Modification: PB 2019 Navy																				Date: February 2018													
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 2 / UR006 RAM MK-49 GMLS ORDALTS													
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																		
Modification Item 1 of 1: UR006 RAM MK-49 GMLS ORDALTS																																	
Installation Information																																	
Method of Implementation: NON-FMP Install:: Installation Name: UR006 RAM MK-49 GMLS ORDALTS																																	
Installation Schedule																																	
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023							
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	TC	Tot		
In	6	2	-	-	8	-	-	8	-	2	-	-	8	-	-	-	-	-	-	13	-	-	-	10	-	-	-	10	-	126	193		
Out	6	-	-	-	10	-	-	-	8	-	-	-	10	-	-	-	-	-	-	-	10	-	-	-	10	-	-	-	8	131	193		

Footnotes:

⁽¹⁸⁾ MOD 1 to MOD 3 procurements shown in prior years were procured under BLI 5238 and are being installed under BLI 5231 due to the LSD schedule and rephrasing. FY17-FY18 procurements are for Tech Refresh/Safety/IA ORDALTS to include a MAM kit per ship set. The Tech Refresh launcher ORDALTS are required to field RAM BLK 2A capabilities for increased performance in a raid environment while also addressing obsolescence. The Y19-FY23 procurements are for the RAM Blk 2B Firepower ORDALTS. These ORDALTS are required to field RAM BLK 2B raid ECP capabilities to meet self defense PRA requirements against evolving threat raid scenarios. FY19 also includes one MOD 1 to MOD 3 ORDALT procurement. FY19 procures twelve RAM Blk 2B Firepower MOD 3 LSMU kits at a unit cost of \$533K/kit and one MOD 1 to MOD 3 Launcher ORDALT kit at a unit cost of \$2M. The LSMU kits, which support current fleet configurations, include new displays, power supplies and other hardware which facilitates our ability to fully utilize future RAM configurations (Block 2A/2B). The MOD 1 to MOD 3 Launcher ORDALT kit is a stand-alone procurement and reflects an increased cost, compared to previous bundled ORDALT kit procurements. Installation costs are associated with Mod 1 to Mod 3 ORDALT installs, Tech Refresh/Safety/IA ORDALT and Firepower ORDALT installations. Installs noted below reflect ship sets (QTY 2 per ship): FY17: 1 MOD 1 to MOD 3 ORDALT install and 4 Ships Tech Refresh/Safety/IA ORDALT Installs; FY18: 4 Ships Tech Refresh/Safety/IA ORDALT Installs; FY19: 1 MOD 1 to MOD 3 ORDALT install and 4 Ships Tech Refresh/Safety/IA ORDALT Installs; FY21: 1 MOD 1 to MOD 3 ORDALT install and 4 RAM Blk 2B Firepower ORDALT Installs; FY22: 5 RAM Blk 2B Firepower ORDALT Installs FY23: 4 RAM Blk 2B Firepower ORDALT Installs

⁽¹⁹⁾ Tech Refresh/Safety/IA ORDALTS

⁽²⁰⁾ RAM Blk 2B Firepower ORDALTS and MOD 1 to MOD 3 ORDALTS

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	63.872	42.733	61.770	75.000	0.000	75.000	70.769	72.383	70.967	76.481	26.192	560.167
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	63.872	42.733	61.770	75.000	0.000	75.000	70.769	72.383	70.967	76.481	26.192	560.167
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	63.872	42.733	61.770	75.000	0.000	75.000	70.769	72.383	70.967	76.481	26.192	560.167
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:
FY17-FY23 includes the procurement of COTS Conversion Kits for CVNs, LPDs, LHDs, LHAs and LSDs, and COTS Upgrade Kits / field changes for the shore sites used for SSDS software development/ maintenance, training, and Combat System integration and certification testing. SSDS procurement also includes various Commercial Off The Shelf (COTS) based systems and equipment used within the integrated combat system. The COTS conversion kits will replace obsolescent COTS hardware, will support Navy Open Architecture computing environment standards to facilitate software reuse and will support the integration of new CS elements and capabilities. FY13-FY18 kits are based on a Technology Insertion - 12 (TI-12) and Technology Insertion - 12 Hybrid (TI-12H) configurations. FY16-FY19 transitions to the TI-16 configuration with procurement for shore sites starting in FY16 and procurement for ships starting in FY19. FY19-21 transitions to TI-16TR. FY21-24 transitions to the TI-22 configuration. The budget cost estimates for the procurement and installation of the kits varies depending on the specific ship class (CVNs, LPDs, LSDs, LHAs, and LHDs), and the existing configuration of the ship or shore site. The cost estimates for individual COTS conversion kits and their associated installation costs are included in the footnotes of exhibit P3A (for UQ005B).

[UQ5IN FMP SHIP UNITS]

The cost for the ship and shore site kits vary depending on the specific ship class (CVN, LPD, LHD,LHA,LSD) and the specific shore site and the existing configuration of the ship/site involved. The costs for each kit is listed below. SSDS kit funding is provided to various contractors and field activities. The SSDS equipment procurement is based on competitive, fixed price contracts. Production lead time for kits ranges from 9 months (for equipment COTS upgrade kits/field changes) to 15 months for system COTS conversion kits for ships and shore sites.

The non-FMP kits are required for four SSDS/CS shore sites: The SSDS MK 2 System/Software Design Agent System Integration Lab, SCSC Wallops Island CS Integration/Engineering test facility, NSWC Dahlgren CS software certification facility, and crew SSDS maintenance training facilities. Each of these facilities require equipment to support the in-service ship configurations, and to support the new configuration baselines in development. The SSDS OPN UQ005 supports field changes to the in-service baselines, and the establishment of new baseline configurations at the shore sites. The cost for the kits varies significantly depending on the site, its existing configuration, and mission of the site. The FY16 procurement of non-FMP kits is mainly for TI-12/TI-12H and it includes procurement of the initial TI-16 equipment for the Design Agent System Integration lab.

The FY17 procurement includes the completion of TI-12/TI-12H equipment for the shore sites, and additional TI-16 equipment procurement for the Design Agent System Integration Lab.

The FY18 procurement includes TI-16 equipment for SCSC Wallops Island for Combat System Integration Testing; and includes the completion of TI-16 equipment for the Design Agent System Integration Lab; and the procurement of TI-12H and TI-16 equipment for the competitive CSEA contract for the development of the SSDS MK2 ACB-20 baseline.

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>The FY19 procurement includes TI-16 equipment for Maintenance Trainer and ICSTF, TI-16 TR equipment for Design Agent and TI-16 Field Changes for SCSC Wallops Island.</p> <hr/> <p>SSDS FY17 unit costs are:</p> <ul style="list-style-type: none"> \$ 11,602K for (1) LHD COTS Conversion Kit (TI-12H)for ACDS replacement in LHD6 \$ 7,030K for (1) LSD COTS Conversion Kit(TI-12H)for LSD44 \$ 4,408K for (1) Design Agent COTS Upgrade Delta Kit(TI-12H) \$ 3,077K for (1) Wallops Island/Dahlgren COTS Upgrade Delta Kit (TI-12H/TI-12) \$ 1,663K for (1) Maintenance Trainer COTS Upgrade Delta Kit (TI-12H) \$ 3,749K for (1) Design Agent COTS Upgrade Delta Kit (TI-16) <p>Total Cost for 6 units in FY17 (UQ005B) is \$31,529K.</p> <hr/> <p>SSDS FY18 unit costs are:</p> <ul style="list-style-type: none"> \$ 16,692K for (2) LPD COTS Conversion Kits(TI-12H) for LPD23 and LPD24 \$ 7,258K for (1) LSD COTS Conversion Kit(TI-12H) for LSD47 \$ 7,988K for (1) Design Agent COTS Upgrade Kit(TI-16 - GFE for Design Agent/CSEA competitive contract) \$ 7,776K for (1) Wallops Island COTS Upgrade Kit(TI-16)for CS Integration Testing \$ 704K for (1) Dahlgren (TI-12 Field Changes), \$ 704K for (1) CDSA DN Maintenance Trainer(TI-12H Field Changes) <p>Total Cost for 7 units in FY18 (UQ005B) is \$41,122K</p> <hr/> <p>SSDS FY19 unit costs are:</p> <ul style="list-style-type: none"> \$ 12,350K for (2) LPD COTS Conversion Kits(TI-16) for LPD17 and LPD19 \$ 8,844K for (1) CVN COTS Conversion Kit(TI-16) for CVN69 \$ 9,791K for (1) LHD COTS Conversion Kit(TI-16) for LHD4 \$ 7,295K for (1) Design Agent COTS Upgrade Kit(TI-16TR - GFE for Design Agent/CSEA competitive contract) \$ 736K for (1) Wallops Island COTS Upgrade Kit(TI-16FC)for CS Integration Testing \$ 6,945K for (1) Dahlgren (TI-16) \$ 6,690K for (1) CDSA DN Maintenance Trainer(TI-16) \$ 3,077K for Cyber Security <p>Total Cost for 8 units in FY19 (UQ005B) is \$55,728K</p> <hr/> <p>SSDS Ship Installation Costs in FY17 (total \$8,983K) include:</p> <ul style="list-style-type: none"> \$ 4,354K for AIT/DSA AIT/DSA for installation of (1) LSD Kit in LSD49 with SS removal, and delayed SS removal in LSD45. 		

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>\$ 991K for AIT/DSA for installation of LHD2 Delta Kit/Changes. \$ 3,638K for Advanced Planning/DSA/Tech Support for CVN78, SDTS, LHD6, LPD23, LPD24, and LSD44.</p> <hr/> <p>SSDS Ship Installation Costs in FY18 (total \$18,108K) include: \$ 7,718K for AIT/DSA for installation of (1) LHD Kit (TI-12H) in LHD6 \$ 4,754K for AIT/DSA for installation of (1) LSD Kit (TI-12H) with SS removal in LSD44 \$ 2,000K for AIT/DSA for installation of TI-12 SCD/Field Changes in CVN78 \$ 3,636K for Advanced Planning/DSA for CVN69, LHD4, LPD17, LPD23, LPD24, and LSD47</p> <hr/> <p>SSDS Ship Installation Costs in FY19 (total \$17,827K) include: \$ 4,835K for AIT/DSA for installation of (1) LSD Kit (TI-12H)with Signal Shelter removal in LSD47 \$ 8,652K for AIT/DSA for installation of (2) LPD Kits (TI-12H) in LPD23 and LPD24 \$ 4,340K for Advanced Planning/DSA for CVN69, LHD4, LPD17, LPD19, LHD7, and CVN71</p>		

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment						Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: [No Model Specified]				Modification Type: TBD				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: UQ005B - SSDS COTS CONVERSION KITS													
B Kits													
Recurring													
1.1.1) UQ5IN FMP SHIP UNITS - NonOrganic	5 / 7.503	2 / 18.632	3 / 23.950	4 / 30.985	- / -	4 / 30.985	3 / 23.152	3 / 25.813	2 / 19.255	4 / 31.253	- / -	26 / 180.543	
1.1.2) UQ6IN NON FMP SHORE SITES - NonOrganic	7 / 29.864	4 / 12.897	4 / 17.172	4 / 23.338	- / -	4 / 23.338	4 / 18.872	4 / 19.778	4 / 17.240	4 / 21.791	- / -	35 / 160.952	
<i>Subtotal: Recurring</i>	- / 37.367	- / 31.529	- / 41.122	- / 54.323	- / -	- / 54.323	- / 42.024	- / 45.591	- / 36.495	- / 53.044	- / 0.000	- / 341.495	
<i>Subtotal: UQ005B - SSDS COTS CONVERSION KITS</i>	12 / 37.367	6 / 31.529	7 / 41.122	8 / 54.323	- / -	8 / 54.323	7 / 42.024	7 / 45.591	6 / 36.495	8 / 53.044	- / -	61 / 341.495	
<i>Subtotal: Procurement, All Modification Items</i>	- / 37.367	- / 31.529	- / 41.122	- / 54.323	- / -	- / 54.323	- / 42.024	- / 45.591	- / 36.495	- / 53.044	- / 0.000	- / 341.495	
Installation													
Modification Item 1 of 1: UQ005B - SSDS COTS CONVERSION KITS	- / 26.505	- / 11.204	- / 20.648	- / 20.677	- / 0.000	- / 20.677	- / 28.745	- / 26.792	- / 34.472	- / 23.437	- / 26.192	- / 218.672	
<i>Subtotal: Installation</i>	- / 26.505	- / 11.204	- / 20.648	- / 20.677	- / -	- / 20.677	- / 28.745	- / 26.792	- / 34.472	- / 23.437	- / 26.192	- / 218.672	
Total													
Total Cost (Procurement + Support + Installation)	63.872	42.733	61.770	75.000	0.000	75.000	70.769	72.383	70.967	76.481	26.192	560.167	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: UQ005B - SSDS COTS CONVERSION KITS																															
Manufacturer Information																															
Manufacturer Name: TBD (Competitive Procurement)															Manufacturer Location: TBD (Competitive Procurement)																
Administrative Leadtime <i>(in Months)</i> : 3															Production Leadtime <i>(in Months)</i> : 15																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Apr 2017				Jan 2018				Jan 2019				Jan 2020				Jan 2021				Jan 2022				Jan 2023					
Delivery Dates		Jul 2018				Apr 2019				Apr 2020				Apr 2021				Apr 2022				Apr 2023				Apr 2024					
Installation Information																															
Method of Implementation: [none specified]:: Installation Name: UQ5IN FMP SHIP UNITS - INSTALLATION																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		3 / 21.245		2 / 5.407		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		5 / 26.652							
FY 2017		0 / 1.722		0 / 2.586		2 / 14.472		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		2 / 18.780							
FY 2018		- / -		0 / 0.990		0 / 1.144		3 / 13.487		0 / 0.000		3 / 13.487		- / -		- / -		- / -		- / -		0 / 0.000		3 / 15.621							
FY 2019		- / -		- / -		0 / 2.492		0 / 2.660		0 / 0.000		0 / 2.660		3 / 21.913		1 / 4.500		- / -		- / -		0 / 0.000		4 / 31.565							
FY 2020		- / -		- / -		- / -		0 / 1.680		0 / 0.000		0 / 1.680		0 / 1.687		2 / 14.154		1 / 5.086		- / -		0 / 0.000		3 / 22.607							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		0 / 2.145		0 / 2.523		3 / 21.780		- / -		0 / 0.000		3 / 26.448							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 1.750		0 / 1.325		2 / 17.882		0 / 0.000		2 / 20.957							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 2.706		0 / 1.905		4 / 24.042		4 / 28.653							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		3 / 22.967		2 / 8.983		2 / 18.108		3 / 17.827		0 / 0.000		3 / 17.827		3 / 25.745		3 / 22.927		4 / 30.897		2 / 19.787		4 / 24.042		26 / 191.283							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	3	2	-	-	-	-	-	-	2	-	-	2	1	-	-	2	1	1	-	2	-	1	-	2	1	-	-	1	1	4	26
Out	3	2	-	-	-	-	-	-	2	-	-	2	1	-	-	2	1	-	1	2	-	1	-	2	1	-	-	-	1	5	26

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 3 / UQ005B - SSDS COTS CONVERSION KITS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: UQ005B - SSDS COTS CONVERSION KITS

Installation Information

Method of Implementation: Method:: Installation Name: UQ6IN NON FMP SHORE SITES - INSTALLATION

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	2 / 3.538	5 / 1.921	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	7 / 5.459
FY 2017	- / -	0 / 0.300	4 / 1.250	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	4 / 1.550
FY 2018	- / -	- / -	0 / 1.290	4 / 1.600	0 / 0.000	4 / 1.600	- / -	- / -	- / -	- / -	0 / 0.000	4 / 2.890
FY 2019	- / -	- / -	- / -	0 / 1.250	0 / 0.000	0 / 1.250	4 / 1.875	- / -	- / -	- / -	0 / 0.000	4 / 3.125
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.125	4 / 2.315	- / -	- / -	0 / 0.000	4 / 3.440
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.550	4 / 1.950	- / -	0 / 0.000	4 / 3.500
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.625	4 / 2.100	0 / 0.000	4 / 3.725
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 1.550	4 / 2.150	4 / 3.700
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	2 / 3.538	5 / 2.221	4 / 2.540	4 / 2.850	0 / 0.000	4 / 2.850	4 / 3.000	4 / 3.865	4 / 3.575	4 / 3.650	4 / 2.150	35 / 27.389

Installation Schedule

	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	2	-	-	-	5	-	-	-	4	-	-	2	2	-	-	2	2	-	-	2	2	-	-	2	2	-	-	2	2	4	35
Out	2	-	-	-	5	-	-	-	4	-	-	2	2	-	-	2	2	-	-	2	2	-	-	2	2	-	-	2	2	4	35

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 4 / VV001 NULKA SYSTEMS

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity <i>(Units in Each)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost <i>(\$ in Millions)</i>	18.633	6.333	6.533	6.838	0.000	6.838	6.363	4.997	0.000	0.000	0.026	49.723
Less PY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) <i>(\$ in Millions)</i>	18.633	6.333	6.533	6.838	0.000	6.838	6.363	4.997	0.000	0.000	0.026	49.723
Plus CY Advance Procurement <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority <i>(\$ in Millions)</i>	18.633	6.333	6.533	6.838	0.000	6.838	6.363	4.997	0.000	0.000	0.026	49.723
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares <i>(\$ in Millions)</i>	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Funds the procurement and installation of the MK53 Nulka Decoy Launching System (DLS). The MK 53 DLS consists of a Decoy Launch Processer (DLP), launching power supplies and from two to six launchers depending on the ship class. Each launcher is capable of storing and launching two Nulka decoys. The MK 53 DLS provides the launch authorization and flight demands to the Nulka decoy when a Nulka engagement is initiated by the EW operator. The MK 53 DLS has been installed on the CG 47, DDG 51, FFG 7, LSD 41, and LSD 49 Classes in prior years. Installation of the MK 53 DLS on CVNs began in FY14 and it will be installed on nine carriers. The first DLS for CVNs was procured under the previous OPN budget (BLI 5530). The final eight are being procured under this budget.

[NULKA SYSTEMS] Program funds the procurement and installation of the MK53 NULKA System.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment						Modification Number / Title: 4 / VV001 NULKA SYSTEMS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: MK 53 DLS				Modification Type: TBD				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> VV001 NULKA SYSTEMS													
B Kits													
Recurring													
1.1.1) NULKA SYSTEMS - NonOrganic	4 / 1.603	1 / 1.225	1 / 1.274	1 / 1.417	- / -	1 / 1.417	1 / 1.460	- / -	- / -	- / -	- / -	8 / 6.979	
1.1.2) TRAINING EQUIPMENT - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.001	- / 0.001	
<i>Subtotal: Recurring</i>	- / 1.603	- / 1.225	- / 1.274	- / 1.417	- / -	- / 1.417	- / 1.460	- / -	- / -	- / -	- / 0.001	- / 6.980	
<i>Subtotal: VV001 NULKA SYSTEMS</i>	4 / 1.603	1 / 1.225	1 / 1.274	1 / 1.417	- / -	1 / 1.417	1 / 1.460	- / -	- / -	- / -	- / 0.001	8 / 6.980	
<i>Subtotal: Procurement, All Modification Items</i>	- / 1.603	- / 1.225	- / 1.274	- / 1.417	- / -	- / 1.417	- / 1.460	- / -	- / -	- / -	- / 0.001	- / 6.980	
Installation													
<i>Modification Item 1 of 1:</i> VV001 NULKA SYSTEMS	- / 17.030	- / 5.108	- / 5.259	- / 5.421	- / 0.000	- / 5.421	- / 4.903	- / 4.997	- / 0.000	- / 0.000	- / 0.025	- / 42.743	
<i>Subtotal: Installation</i>	- / 17.030	- / 5.108	- / 5.259	- / 5.421	- / -	- / 5.421	- / 4.903	- / 4.997	- / -	- / -	- / 0.025	- / 42.743	
Total													
Total Cost (Procurement + Support + Installation)	18.633	6.333	6.533	6.838	0.000	6.838	6.363	4.997	0.000	0.000	0.026	49.723	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3					P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 4 / VV001 NULKA SYSTEMS																
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:																					
Modification Item 1 of 1: VV001 NULKA SYSTEMS																															
Manufacturer Information																															
Manufacturer Name: SECHAN										Manufacturer Location: LITITZ, PA																					
Administrative Leadtime (in Months): 6										Production Leadtime (in Months): 14																					
Dates	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023						
Contract Dates	Mar 2017				May 2018				Dec 2018				Dec 2019																		
Delivery Dates	May 2018				Jul 2019				Feb 2020				Feb 2021																		
Installation Information																															
Method of Implementation: AIT:: Installation Name: NULKA SYSTEMS																															
Installation Cost		Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total																		
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)																		
Prior Years		3 / 16.805	1 / 4.648	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	4 / 21.453																		
FY 2017		0 / 0.225	0 / 0.281	1 / 4.734	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	1 / 5.240																		
FY 2018		- / -	0 / 0.179	0 / 0.270	1 / 4.873	0 / 0.000	1 / 4.873	- / -	- / -	- / -	- / -	0 / 0.000	1 / 5.322																		
FY 2019		- / -	- / -	0 / 0.255	0 / 0.360	0 / 0.000	0 / 0.360	1 / 4.859	- / -	- / -	- / -	0 / 0.000	1 / 5.474																		
FY 2020		- / -	- / -	- / -	0 / 0.188	0 / 0.000	0 / 0.188	0 / 0.044	1 / 4.997	- / -	- / -	0 / 0.025	1 / 5.254																		
FY 2021		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2022		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
FY 2023		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
To Complete		- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -																		
Total		3 / 17.030	1 / 5.108	1 / 5.259	1 / 5.421	0 / 0.000	1 / 5.421	1 / 4.903	1 / 4.997	- / -	- / -	0 / 0.025	8 / 42.743																		
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	3	-	-	-	1	-	-	-	1	-	-	-	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	8
Out	2	-	-	1	-	-	-	-	-	-	-	1	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	-	-	1	8

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3					P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 5 / VV003 ENGINEERING CHANGES AND LOGISTICS SUPPORT		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	7.812	5.453	5.121	3.998	0.000	3.998	4.271	4.318	4.388	5.017	0.000	40.378
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	7.812	5.453	5.121	3.998	0.000	3.998	4.271	4.318	4.388	5.017	0.000	40.378
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	7.812	5.453	5.121	3.998	0.000	3.998	4.271	4.318	4.388	5.017	0.000	40.378
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>VV003: Engineering Changes and Logistics Support - Funding will procure Engineering Change Proposals (ECPs)/ORDALT Kits to ensure future tactical suitability and viability of NULKA and to address obsolescence, quality assurance, reliability, safety, Electromagnetic Interference (EMI), and diminishing manufacturing source issues. Additionally, funding will provide for updating Logistics including decoy and special purpose test equipment maintenance, provisioning, transportation, and training school support as required.</p> <p>[DLS ORDALT KITS] Funding will procure Engineering Change Proposals (ECPs)/ORDALT Kits to ensure future tactical suitability and viability of NULKA and to address obsolescence, quality assurance, reliability, safety, Electromagnetic Interference (EMI), and diminishing manufacturing source issues. Additionally, funding will provide for updating Logistics including decoy and special purpose test equipment maintenance, provisioning, transportation, and training school support as required.</p> <p>Installation of Ordalt 73014 (\$400K) is included for the DLPP (Decoy Launch Processor Program) 6_3 upgrade and is included in Cost Code VVINS (Installation of Equipment).</p>												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3					P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 5 / VV003 ENGINEERING CHANGES AND LOGISTICS SUPPORT			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: DLS/EMC ORDALT KITS				Modification Type: TBD					Related RDT&E PEs:				
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1: N/A</i>													
<i>Subtotal: N/A</i>													
<i>Subtotal: Procurement, All Modification Items</i>													
Support (All Modification Items)													
2.1) ENGINEERING CHANGES													
2.2) LOGISTICS/PRODUCTION SUPPORT													
<i>Subtotal: Support</i>													
Installation													
<i>Subtotal: Installation</i>													
Total													
Total Cost (Procurement + Support + Installation)													

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Exhibit P-3a, Individual Modification: PB 2019 Navy					Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3			P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment			Modification Number / Title: 5 / VV003 ENGINEERING CHANGES AND LOGISTICS SUPPORT	
ID Code (A=Service Ready, B=Not Service Ready) :				MDAP/MAIS Code:			
Modification Item 1 of 1: N/A							
Manufacturer Information							
Manufacturer Name: N/A				Manufacturer Location: N/A			
Administrative Leadtime (in Months):				Production Leadtime (in Months):			
Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates							
Delivery Dates							
Installation Information							
Method of Implementation (Organic): Support Only Installation					Installation Quantity: 0		

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment	Modification Number / Title: 6 / VV831 DLF-3B SYSTEMS

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	20.551	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	22.014
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	20.551	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	22.014
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	20.551	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	22.014
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Procurement of the commercially available DLF-3B decoy systems. A ship system consists of 6 decoys, 6 launch tubes, and 1 control panel.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment						Modification Number / Title: 6 / VV831 DLF-3B SYSTEMS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: DLF-3B DECOY SYSTEMS				Modification Type: TBD				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> VV831 DLF-3B SYSTEMS													
B Kits													
Non-Recurring													
1.1.1) DLF-3B SYSTEMS - NonOrganic	11 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.001	11 / 0.001	
<i>Subtotal: Non-Recurring</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.001	- / 0.001	
<i>Subtotal: VV831 DLF-3B SYSTEMS</i>	11 / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.001	11 / 0.001	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.001	- / 0.001	
Installation													
<i>Modification Item 1 of 1:</i> VV831 DLF-3B SYSTEMS	- / 20.551	- / 1.462	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 22.013	
<i>Subtotal: Installation</i>	- / 20.551	- / 1.462	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 22.013	
Total													
Total Cost (Procurement + Support + Installation)	20.551	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	22.014	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 6 / VV831 DLF-3B SYSTEMS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VV831 DLF-3B SYSTEMS																															
Manufacturer Information																															
Manufacturer Name: TBD															Manufacturer Location: TBD																
Administrative Leadtime (in Months): 0															Production Leadtime (in Months): 0																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates																															
Delivery Dates																															
Installation Information																															
Method of Implementation: AIT:: Installation Name: DLF-3B SYSTEMS																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		9 / 20.551		2 / 1.462		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		11 / 22.013					
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
Total		9 / 20.551		2 / 1.462		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		11 / 22.013					
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	9	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
Out	8	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment						Modification Number / Title: 7 / OTH Weapon System Installation		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.956	3.984	4.061	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.956	3.984	4.061	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.956	3.984	4.061	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description: Provides funding to install procured Over The Horizon Weapon System into LCS Class ships by Alteration Installation Teams (AIT).</p> <p>[OTH WS INSTALLATION] Provides funding for the installation of the Over The Horizon Weapon System (OTH WS) onto Littoral Combat Ship (LCS) Class ships.</p>												

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3				P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment					Modification Number / Title: 7 / OTH Weapon System Installation			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:				
Models of Systems Affected: [No Model Specified]				Modification Type: TBD				Related RDT&E PEs: 0603581N				
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>
Procurement												
<i>Modification Item 1 of 1:</i> OTH Weapon System Installation												
A Kits												
Non-Recurring												
1.2.1) OTH WS INSTALLATION - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.956	2 / 3.984	2 / 4.061	Continuing	Continuing
<i>Subtotal: Non-Recurring</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.956	- / 3.984	- / 4.061	Continuing	Continuing
<i>Subtotal: OTH Weapon System Installation</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.956	2 / 3.984	2 / 4.061	Continuing	Continuing
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / 1.956	- / 3.984	- / 4.061	Continuing	Continuing
Installation												
<i>Modification Item 1 of 1:</i> OTH Weapon System Installation	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
<i>Subtotal: Installation</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000
Total												
Total Cost (Procurement + Support + Installation)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.956	3.984	4.061	Continuing	Continuing

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3										P-1 Line Item Number / Title: 5231 / Ship Missile Support Equipment										Modification Number / Title: 7 / OTH Weapon System Installation											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: OTH Weapon System Installation																															
Manufacturer Information																															
Manufacturer Name: TBD (Competitive Procurement)															Manufacturer Location: TBD (Competitive Procurement)																
Administrative Leadtime <i>(in Months)</i> : 0															Production Leadtime <i>(in Months)</i> : 24																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates										Dec 2018				Dec 2019				Dec 2020				Dec 2021									
Delivery Dates										Dec 2020				Dec 2021				Dec 2022				Dec 2023									
Installation Information																															
Method of Implementation: [none specified]:: Installation Name: OTH WS INSTALLATION																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 0.000		- / -		- / -		1 / 0.000		2 / -					
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.000		- / -		1 / 0.000		3 / -					
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.000		0 / 0.000		2 / -					
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
Total		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 0.000		2 / 0.000		2 / 0.000		2 / 0.000		7 / -					
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	2	2	7
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	2	2	7

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy	Date: February 2018
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Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment	P-1 Line Item Number / Title: 5253 / Tomahawk Support Equipment
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: 289

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	613.053	67.062	73.184	92.890	0.000	92.890	79.187	81.059	83.612	84.201	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	613.053	67.062	73.184	92.890	0.000	92.890	79.187	81.059	83.612	84.201	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	613.053	67.062	73.184	92.890	0.000	92.890	79.187	81.059	83.612	84.201	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.181	0.311	0.365	-	0.365	0.185	0.180	0.199	0.219	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

The Theater Mission Planning Center (TMPC) consists of Commercial and Government Off-The-Shelf (COTS/GOTS) software and COTS hardware. TMPC is the mission planning segment of the Tomahawk Weapon System (TWS) that provides subsystems for the precision targeting, route planning, mission distribution, and strike management of Tomahawk cruise missile missions from sites located ashore and afloat. TMPC optimizes all aspects of the Tomahawk missile mission to successfully engage a target. TMPC has evolved into 4 scalable configurations deployed at 187 sites: Cruise Missile Support Activities (CMSAs) (3), Tomahawk Strike Mission Planning Cells (TSMPCs) (3), Carrier Strike Groups (CSGs) (19 - 10 CVN), and Firing Units (FRUs) (143 - 85 Surface / 58 Subsurface). Additionally, TMPC is installed in Labs (6) and Training Classrooms (13) that contain various combinations of the four configurations.

Continuous TMPC software updates decreases mission planning time and increases the quality and accuracy of each mission while reducing complexity. TMPC provides mission planning at the theater and operational levels and is designed for high rate mission planning production responsive to national strategic, operational, and tactical requirements. TMPC produces and distributes missions; provides command information services; provides strike planning, execution, coordination, control and reporting, and provides Maritime Component Commanders (MCC) the capability to plan or modify conventional TWS missions. TMPC supports major joint combat operations and Overseas Contingency Operations. TMPC was previously referred to as Tomahawk Command and Control System (TC2S).

Funds provide for systems engineering, testing, Independent Verification & Validation (IV&V), security accreditation, installation, site acceptance testing, user familiarization of products, and hardware. Also, this funding line provides for COTS refreshment, engineering changes, software upgrades, cyber-security modernization, and associated Nuclear Powered General Purpose Attack Submarine/Guided Missile Destroyer/Guided Missile Cruiser/Nuclear Aircraft Carrier (SSNs/DDGs/CGs/CVN) logistics and infrastructure to maintain compatibility and interoperability with existing and future TMPC system configurations.

Surface and Submarine Tactical Tomahawk Weapon Control System (TTWCS) is a post milestone III program executing its first major tech refresh since its 2004 IOC. This refresh resolves processor, display console, equipment rack and software obsolescence issues. The updated TTWCS version was released in FY 2017, but hardware and software must be procured and delivered throughout the next several years to promulgate it across the entire fleet (140 firing units). Advanced TTWCS functions include: tasking validation (missile mission matching), planning of over the water routes, initialization, preparation and launch of BLK III/IV missiles, TTWCS reduced response time and increased operational flexibility through addition of Launch Platform Mission Planning (LPMP), C4I Web services interfaces, and in-flight monitoring and control of Blk IV missiles. In addition, funds provided to continue TTWCS viability in TTWCS v5.6 and ensure compliance with cyber security mandates, continue to address hardware obsolescence through periodic COTS hardware refresh and periodically refresh of GOTS software to address obsolescence, support migration from 32 bit to 64 bit architecture and migrate away from legacy Ada code. Finally, it will allow reduction of system complexity and incorporation of critical software fixes. Program options are being identified that will enable TWS integration into future platforms. Included in those options will be changes necessary for TTWCS to ensure required functionality as the missile is modernized beginning in FY 2019.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 3: Ship Missile Systems Equipment						P-1 Line Item Number / Title: 5253 / Tomahawk Support Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: 289										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / 525300, TOMAHAWK Support Equipment				- / 613.053	- / 67.062	- / 73.184	- / 92.890	- / 0.000	- / 92.890
P-40	Total Gross/Weapon System Cost				- / 613.053	- / 67.062	- / 73.184	- / 92.890	- / 0.000	- / 92.890
*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.										
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.										
<p>Justification:</p> <p>FY 2019 funding is required to continue fielding version TTWCS 5.4.0 and begin fielding of TTWCS hardware/software obsolescence updates (v5.4.0.2). Funds also provide for integration, modernization and interoperability efforts necessary to keep pace with changes, retain capability and exploit capabilities of internal (TWS All-Up-Round missile and TTWCS) and external (Modernized Integrated Data Base (MIDB)), National Geospatial Intelligence Agency (NGA) products, Distributed Common Ground Systems (DCGS) Integrated Backbone (DIB) compliance, Future Imagery Architecture (FIA) imagery formats and Intelligence Surveillance & Reconnaissance (ISR) interfaces, Network Centric Enterprise Services (NCES), Global Information Grid/Internet Protocol (GIG/IP) (V)6, FORCEnet compliance systems/interfaces to the effectiveness of the TWS, into TMPC deployed configurations. Funding supporting TTWCS is appropriately phased to complete the 1st major tech refresh since IOC in 2004. TTWCS relies on COTS hardware that requires a constant and predictive upgrade path to meet cyber security mandates, ensure continued vendor supportability, avoid costly retrofits of fielded systems, and ensure interoperability between tightly coupled COTS software applications, operating systems, and hardware processing nodes. Consequently, increased product improvement resources are required to comply with commercial hardware/software supportability mandates, obsolescence, and information assurance requirements to maintain pace with modern computing architectures.</p> <p>FY 2019 funding is required to continue the upgrade of unsupportable and obsolete TMPC hardware and software, to ensure compliance with DoD cyber-security mandates, to continue fielding of TMPC 5.0.2 to 187 sites, and to continue navigation and communications improvements required to support the TWS Modernization program via TMPC 6.0. FY 2019 increase supports TMPC 5.0.2 installation of both hardware and software required for upgrading the Microsoft Operating System from Windows 7 to Windows 10 to ensure continued uninterrupted Tomahawk Weapon System capability beyond Windows 7 end of life in 2020. Also, FY 2019 increase funds anti-tamper capability for the Tomahawk Planning System component of TMPC to protect Critical Program Information. Procurement of unique hardware will be executed in FY 2019 and FY 2020 using a qualified manufacturer. Integration is planned for the period FY 2019 - FY 2021. This anti-tamper capability will permit implementation of advanced capabilities of the Tomahawk Modernization program with needed anti-tamper safeguards.</p> <p>The FY 2019 funding request was reduced by \$0.725 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018									
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3						P-1 Line Item Number / Title: 5253 / Tomahawk Support Equipment						Item Number / Title [DODIC]: 1 / 525300, TOMAHAWK Support Equipment									
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:											
Resource Summary				Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
Procurement Quantity (Units in Each)				-			-			-			-			-			-		
Gross/Weapon System Cost (\$ in Millions)				613.053			67.062			73.184			92.890			0.000			92.890		
Less PY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Net Procurement (P-1) (\$ in Millions)				613.053			67.062			73.184			92.890			0.000			92.890		
Plus CY Advance Procurement (\$ in Millions)				-			-			-			-			-			-		
Total Obligation Authority (\$ in Millions)				613.053			67.062			73.184			92.890			0.000			92.890		
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																					
Initial Spares (\$ in Millions)				-			0.181			0.311			0.365			-			0.365		
Gross/Weapon System Unit Cost (\$ in Dollars)				-			-			-			-			-			-		
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																					
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total					
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)			
Hardware - TTWCS Cost																					
Recurring Cost																					
1.1.1) Tactical Tomahawk Weapon Control System (TTWCS) Hardware ⁽¹⁾	-	-	14.411	-	-	1.519	-	-	1.549	-	-	1.560	-	-	-	-	-	1.560			
Subtotal: Recurring Cost	-	-	14.411	-	-	1.519	-	-	1.549	-	-	1.560	-	-	-	-	-	1.560			
Subtotal: Hardware - TTWCS Cost	-	-	14.411	-	-	1.519	-	-	1.549	-	-	1.560	-	-	-	-	-	1.560			
Hardware - HARDWARE RECURRING SUPPORT - TTWCS Cost																					
Recurring Cost																					
2.1.1) TTWCS Product Improvement ⁽²⁾	-	-	134.420	-	-	14.352	-	-	18.469	-	-	19.891	-	-	-	-	-	19.891			
Subtotal: Recurring Cost	-	-	134.420	-	-	14.352	-	-	18.469	-	-	19.891	-	-	-	-	-	19.891			
Subtotal: Hardware - HARDWARE RECURRING SUPPORT - TTWCS Cost	-	-	134.420	-	-	14.352	-	-	18.469	-	-	19.891	-	-	-	-	-	19.891			
Hardware - TMPC Cost																					
Recurring Cost																					
3.1.1) Tomahawk Mission Planning Center (TMPC) Hardware ⁽³⁾	-	-	21.766	-	-	2.969	-	-	3.128	-	-	17.268	-	-	-	-	-	17.268			
Subtotal: Recurring Cost	-	-	21.766	-	-	2.969	-	-	3.128	-	-	17.268	-	-	-	-	-	17.268			

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3						P-1 Line Item Number / Title: 5253 / Tomahawk Support Equipment						Item Number / Title [DODIC]: 1 / 525300, TOMAHAWK Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Hardware - TMPC Cost	-	-	21.766	-	-	2.969	-	-	3.128	-	-	17.268	-	-	-	-	-	17.268
Software - PRODUCT IMPROVEMENTS - TMPC Cost																		
Recurring Cost																		
4.1.1) TMPC Product Improvements ⁽⁴⁾	-	-	143.666	-	-	17.510	-	-	17.867	-	-	20.123	-	-	-	-	-	20.123
Subtotal: Recurring Cost	-	-	143.666	-	-	17.510	-	-	17.867	-	-	20.123	-	-	-	-	-	20.123
Subtotal: Software - PRODUCT IMPROVEMENTS - TMPC Cost	-	-	143.666	-	-	17.510	-	-	17.867	-	-	20.123	-	-	-	-	-	20.123
Support - Support - TTWCS Cost																		
5.1) TTWCS Production Engineering ⁽⁵⁾	-	-	23.141	-	-	1.038	-	-	1.059	-	-	0.976	-	-	-	-	-	0.976
5.2) TTWCS Integrated Logistic Support ⁽⁶⁾	-	-	98.791	-	-	10.860	-	-	11.081	-	-	10.960	-	-	-	-	-	10.960
Subtotal: Support - Support - TTWCS Cost	-	-	121.932	-	-	11.898	-	-	12.140	-	-	11.936	-	-	-	-	-	11.936
Support - TMPC Cost																		
6.1) TMPC Production Engineering ⁽⁷⁾	-	-	36.645	-	-	4.392	-	-	4.353	-	-	4.440	-	-	-	-	-	4.440
6.2) TMPC Production Support ⁽⁸⁾	-	-	34.374	-	-	4.164	-	-	4.126	-	-	4.218	-	-	-	-	-	4.218
6.3) TMPC Integrated Logistic Support ⁽⁹⁾	-	-	81.811	-	-	10.258	-	-	11.552	-	-	13.454	-	-	-	-	-	13.454
Subtotal: Support - TMPC Cost	-	-	152.830	-	-	18.814	-	-	20.031	-	-	22.112	-	-	-	-	-	22.112
Support - ILS INSTALLATIONS Cost																		
7.1) FMP Installations	-	-	15.139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - ILS INSTALLATIONS Cost	-	-	15.139	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Support - Miscellaneous Cost																		
8.1) TTWCS Other Cost	-	-	8.889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - Miscellaneous Cost	-	-	8.889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	613.053	-	-	67.062	-	-	73.184	-	-	92.890	-	-	0.000	-	-	92.890

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 3	P-1 Line Item Number / Title: 5253 / Tomahawk Support Equipment	Item Number / Title [DODIC]: 1 / 525300, TOMAHAWK Support Equipment
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
Footnotes: ⁽¹⁾ TTWCS Hardware funds are required to address hardware obsolescence through periodic COTS hardware refresh. ⁽²⁾ TTWCS relies on COTS hardware that require constant and predictive upgrade path to meet cyber security mandates, ensure continued vendor supportability, avoid costly retrofits of fielded systems, and ensure interoperability between tightly coupled COTS software applications, operating systems, and hardware processing nodes. Consequently, increased product improvement resources are required commencing in FY 2017 and continuing through FY 2019 to comply with evolving security compliance requirements that necessitate a more frequent update cycle to combat obsolescence and adhere to commercial hardware/software supportability mandates to maintain pace with modern computing architectures. ⁽³⁾ Procures hardware and software for installations of system upgrades at all U.S.TMPC sites. This also includes hardware and software for the system developers. FY 2019 procures the hardware and software for the installation of TMPC 5.0.2 onboard Firing Units Guided Missile Destroyers, Guided Missile Cruisers and Nuclear Powered General Purpose Attack Submarines (DDGs/CGs/SSNs), Command Staffs, laboratories, and training sites. Also, the FY 2019 increase funds anti-tamper capability for the Tomahawk Planning System (TPS) component of TMPC to protect Critical Program Information by procuring unique Anti-Tamper hardware using a qualified manufacturer. This anti-tamper capability will permit implementation of advanced capabilities of Tomahawk Modernization program with needed anti-tamper safeguards. ⁽⁴⁾ Provides for software engineering efforts associated with the delivery of system modernization and improvements by the prime developers to continue the upgrade of unsupportable and obsolete TMPC hardware and software and to ensure compliance with DoD cyber security mandates. In FY 2019, this line also continues the upgrades to the TMPC Enterprise Network (TEN 2.0) to improve the distribution of electronic software distribution / propagation, enable remote assistance/troubleshooting, provide enhanced configuration management visibility, and provide cost effective means to deploy cyber-security patches and settings expeditiously. FY 2019 also funds software system upgrades for the submarine community to address system interfaces and upgrades to support the TMPC system usability improvements necessary for fleet operators to effectively execute large and complex TLAM operations as required by US Fleet Forces Command (USFFC). FY 2019 increase supports TMPC imagery format updates for TMPC 7.0 and 8.0. ⁽⁵⁾ Decrease in production engineering from FY 2018 to FY 2019 is associated with the cost of fabrication of ship sets supporting TTWCS v5.4.0.2 upgrades. ⁽⁶⁾ TTWCS Integrated Logistics Support required for Surface/Submarine installations onboard firing units. ⁽⁷⁾ Provides systems engineering support for system design and definition of requirements necessary to evaluate all functional aspects of the TMPC subsystems and workflows that directly impact strike & execution and mission planning products. It includes reviewing TWS and external interfaces for impacts resulting from design upgrades/changes within TWS and by external organizations, Independent Verification & Validation (IV&V), and security accreditation activities. ⁽⁸⁾ Funds activities that directly support system upgrades requirements such as user events, requirements validation, systems engineering technical reviews, software formal qualification testing, and delta training documentation. ⁽⁹⁾ Funds installation support associated with the deployment of new TMPC system upgrades to all U.S. TMPC sites. FY 2019 funds the installation of TMPC 5.0.2 onboard Firing Units Guided Missile Destroyer, Guided Missile Cruiser and Nuclear Attack Submarine (DDGs/CGs/SSNs), Command Staffs, laboratories, and training classrooms. The increase in FY 2019 funding supports TMPC 5.0.2 installation of both hardware and software required for upgrading the Microsoft Operating System from Windows 7 to Windows 10 to ensure continued uninterrupted Tomahawk Weapon System capability beyond Windows 7 end of life in 2020. Integration of the Anti-Tamper capability is planned for the period FY 2019 - FY 2021. This anti-tamper capability will permit implementation of advanced capabilities of Tomahawk Modernization program with needed anti-tamper safeguards.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	1,202.098	215.138	246.221	271.817	0.000	271.817	274.440	241.396	254.053	259.020	-	2,964.183
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	1,202.098	215.138	246.221	271.817	0.000	271.817	274.440	241.396	254.053	259.020	-	2,964.183
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	1,202.098	215.138	246.221	271.817	0.000	271.817	274.440	241.396	254.053	259.020	-	2,964.183
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	0.140	-	-	-	-	-	-	-	-	-	0.140
Flyaway Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Thousands</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>This budget provides for the procurement of Strategic Weapons System (SWS) equipment for deployed ballistic missile submarines (SSBNs) and shore support sites to support the TRIDENT II (D5) program. Included are shipboard subsystem equipment modernization and technical refresh efforts associated with the TRIDENT II (D5) life extension program. TRIDENT II SSBN hull life has been extended, therefore extending system life to FY 2042.</p> <p>OTHER MATERIAL SUPPORT</p> <p>A broad range of other material support equipment must be procured for deployed SSBNs, shore installations and contractor facilities. Included within this category are general and special purpose test equipment, launcher expendables, navigation principal items, test instrumentation in support of missile flight tests, and missile checkout equipment.</p> <p>ALTERATIONS</p> <p>Alterations to non-flying tactical hardware are continuing requirements for the SWS. Requirements primarily relate to shipboard investments in Commercial-off-the-Shelf/Non-Developmental Items (COTS/NDI) SWS subsystem equipment, including periodic refresh cycles, to ensure continued reliable performance of the weapon system for its extended service life to match the OHIO Class life extension. Strategic Programs Alterations (SPALTs) also entail the application of available technology to eliminate personnel safety hazards, correct design deficiencies, maintain system effectiveness by resolving equipment operability problems, achieve logistic economies, and provide for shipboard subsystem D5 life extension modernization efforts.</p> <p>Funds are required to procure alterations to the SWS launcher and fire control subsystems; to inertial, non-inertial, and ESGN navigation subsystem equipment on deployed SSBNs and installed at supporting shore facilities, including the TRIDENT Training Facility (TTF), Bangor, TTF, Kings Bay, the Ashore Navigation Center, and the Inertial System Test Laboratory; to test instrumentation used on SSBNs, support ships and at the Eastern Test Range, the TRIDENT Refit Facility (TRF), Bangor, and TRF, Kings Bay; and to missile handling equipment, missile test and readiness equipment, and surface support equipment. Installation of approved SPALTs is performed on a turnkey basis in conjunction with the procurement of equipment. Use of COTS/NDI has been initiated and is being implemented in all subsystems, wherever possible.</p> <p>The majority of the Alterations funding supports the Shipboard System Integration (SSI) program which utilizes a COTS based strategy that integrates common electronics (from Fire Control, Launcher, Navigation and Shipboard Data Recording Systems) into the fire control sub-system as well as refreshing inertial systems in order to ensure the TRIDENT II (D5) weapon system can be sustained to FY 2042 in support of OHIO Class SSBNs. Below is a description of each SSI Increment (Inc):</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment		P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N
Line Item MDAP/MAIS Code: N/A		
<p>SSI Inc 1: Provide subsystems integration into the MOD 6/7 Tech Refresh for the Fire Control System (FCS) leaving the missile and guidance system interface unchanged. Also provides Ship/Strategic Weapons Support System (SWSS) SHIPALT's for ship interfaces that comprise of power, missile tube cabling, radio room, and Fire Control (FC) cabling. Installation is accomplished during 50 day refit without missile offload.</p> <p>SSI Inc 2: Introduction of an integrated Shipboard Data Systems (SDS) which is comprised of Data Recording Subsystem (DRS), Maintenance Information Network (MIN), and Electronic Work Log (EWL) subsystems. The DRS legacy functionality, connectivity, equipment is unchanged. The EWL subsystem provides software upgrades and the Window 7 Operating System upgrade. Provides subsystem SPALTs for SDS and Strategic Weapons System Maintenance Information Network (SWSMIN) and refresh portable computing devices.</p> <p>SSI Inc 4: Prerequisites are SSI Inc 1 and Inc 2. Inc 4 provides SWS Subsystem SPALTs which includes Mod 6/7 FCS Refresh SPALT, Navigation (NAV) Radio Frequency (RF) SPALT, SDS SPALT, and Cabling SPALT. For the FC Mod 6/7 Refresh it contains the technical refresh, integration and commonality of the system. The DRS legacy software modifies the support of the new NAV/SHIP/DRS and NAV/FC interfaces and format changes. For Navigation changes, the equipment remains in NAV Center. Supplies the first technical refresh in 25 years for Navigation Aids (NAVAIDS) Electronics, frequency standard, workstation, and NAV Control Panel (NCP).</p> <p>SSI Inc 8: Prerequisite is SSI Inc 4. Inc 8 provides replacement of the 30 year old ESGN which needs a refresh of inertial technology components, replacement of the Electronic Equipment Consoles (EEC), and updates Navigation Subsystem software to accommodate ESGN replacement navigator. Also, provides SWS subsystem SPALTs for FC and TTF NAV Lab trainers, and SDS (DRS) Software SPALT changes which are driven by data requirement changes. The SHIPALTs retain NAV Center bedplate, cabling, chilled water/ventilation, and retain electrical Power.</p> <p>SSI Inc 10: Prerequisite is SSI Inc 2. Inc 10 provides for the refresh of Shipboard Data Systems.</p> <p>SSI Inc 11: Launcher Initiation System (LIS) is being developed for backfit onto OHIO Class D5LE SSI Inc 1 is a prerequisite. This provides a technical refresh of 30+ year old technology to ensure long term system reliability. SHIP/SWSS SHIPALT are to replace electrical cable with hybrid fiber-optic/electrical cable.</p> <p>SSI Inc 13: Prerequisite is SSI Inc 4. Inc 13 provides Shipboard Systems Refresh for FCS, NAV, and Missile Test and Readiness Equipment (MTRE) to integrate within the subsystems.</p> <p>SSI Inc 15: Prerequisite is SSI Inc 13. Inc 15 provides pre-configuration and post-configuration support of Inc 8 and Inc 11. Inc 15 provides refresh alterations for fire control equipment, navigation, launcher, and trainer subsystems.</p> <p>SSI Inc 16: Prerequisite is SSI Inc 15. Inc 16 provides Fire Control Subsystem refresh of SSI Inc 13 components, technical refresh of Shipboard Data System (SDS) subsystems, technical refresh of Navigation SSI Inc 4, technical refresh of Launcher Variable Energy Eject (VEE) actuators to address obselece to sustain the fleet.</p> <p>TRAINING</p> <p>This category provides for procurement of, and alterations to, both tactical and non-tactical equipment required at submarine training facilities to train personnel in the operation and maintenance of launcher and handling, fire control, navigation, missile checkout, and test instrumentation subsystems. Each training facility consists of an integrated family of system and unit laboratories that interface with a training simulation system to provide complete and realistic training for replacement and off-crew personnel, both officer and enlisted, as required for manning of SSBNs and shore facilities. Funding is budgeted to procure training-unique equipment required as the result of alterations to SWS tactical equipment, including those associated with D-5 life extension.</p> <p>NEW START</p> <p>Funding in this category is in support of the Strategic Arms Reduction Treaty (New START) signed into law on 5 February 2011. New START is a nuclear arms reduction treaty between the United States and the Russian Federation which limits the number of deployed launchers.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment		P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N
Line Item MDAP/MAIS Code: N/A		
COLUMBIA CLASS Funding in this category is in support of the Columbia class SSBN for the procurement of trainer equipment.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment						P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip				
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Strategic Missile Systems Equip	P-5a, P-21			- / 1,202.098	- / 215.138	- / 246.221	- / 271.817	- / -	- / 271.817
P-40	Total Gross/Weapon System Cost				- / 1,202.098	- / 215.138	- / 246.221	- / 271.817	- / 0.000	- / 271.817
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification: OTHER MATERIAL SUPPORT A broad range of other material support equipment must be procured for deployed SSBNs, shore installations and contractor facilities. Included within this category are general and special purpose test equipment, launcher expendables, navigation principal items, test instrumentation in support of missile flight tests, and missile checkout equipment. Amounts included within this P1 line for this category are subdivided as follows:</p> <p>Launcher and Handling Equipment (Cost code 1.2 & 1.5): Funding in FY 2019 provides for an increase in quantity of 2 MK-74 Gas Generator (GG) procurements to support missile launch operations and the life extension of the Gas Generators. Ballast installation for the ballast cans procured is required due to the decision to keep SSBN 730/731 as Strategic assets.</p> <p>Fire Control Equipment (Cost code 2.1, 2.3-2.5): Funding in FY 2019 provides procurement of continued capital maintenance projects at the Naval Industrial Reserve Ordnance Plant (NIROP) in Pittsfield, MA. Increases are attributed to the roof replacement for building OP2 and chiller replacement. These projects are essential to correct environmental, safety, and energy conservation deficiencies. Funding also provides procurement of hardware and software for targeting, as well as the integration of Navy Enterprise Resource Planning (NERP) and the Advanced Inventory Logistics (SAIL) to track tactical support equipment.</p> <p>Navigation Equipment (Cost code 3.1-3.3): Funding in FY 2019 provides for stable platform & housing material kits and shock isolation system kits for Electro-statically Supported Gyro Navigator (ESGN) to maintain survivability for the SSBNs. Funding also provides for factory test equipment refresh to the Inertial Navigation System (INS) Cabinet and Platform Electronics which are critical to the testing of the ESGN. Funding is required for replacement of worn or damaged inertial test equipment used at contractors' plants to support test, evaluation, and analysis of inertial instruments.</p> <p>Instrumentation/Missile Test Equipment (Cost code 4.1-4.6): Funding in all years provides for shore based and shipboard test instrumentation equipment in support of missile flight tests. Funding in FY 2019 provides for the refresh of the flight test instrumentation to incorporate material in M465 Eastern Range (ER) and Pacific Range (PR) SPALT. Funding in FY19 also provides the procurement of umbilical cable shipsets used to replace Umbilicals after approximately twenty years of use, to ensure no reliability degradation and to support the TRIDENT unique portion of the Range refresh of the Command Destruct Transmitter.</p> <p>Information Technology (Cost code 5.1): Funding in all years provides for IT equipment acquisitions (hardware and related software) in support of the Strategic Systems Programs. This includes the IT hardware and software components connected to the Strategic Weapons System Network (SWSNET).</p> <p>ALTERATIONS Alterations to non-flying tactical hardware are continuing requirements for the SWS. Requirements primarily relate to shipboard investments in Commercial-off-the-Shelf/Non-Developmental Items (COTS/NDI) SWS subsystem equipment, including periodic refresh cycles, to ensure continued reliable performance of the weapon system for its extended service life to match the OHIO Class life extension. Strategic</p>										

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment		P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N
Line Item MDAP/MAIS Code: N/A		
<p>Programs Alterations (SPALTs) also entail the application of available technology to eliminate personnel safety hazards, correct design deficiencies, maintain system effectiveness by resolving equipment operability problems, achieve logistic economies, and provide for shipboard subsystem D5 life extension modernization efforts.</p> <p>Funds are required to procure alterations to the SWS launcher and fire control subsystems; to inertial, non-inertial, and ESGN navigation subsystem equipment on deployed SSBNs and installed at supporting shore facilities, including the TRIDENT Training Facility (TTF), Bangor, TTF, Kings Bay, the Ashore Navigation Center, and the Inertial System Test Laboratory; to test instrumentation used on SSBNs, support ships and at the Eastern Test Range, the TRIDENT Refit Facility (TRF), Bangor, and TRF, Kings Bay; and to missile handling equipment, missile test and readiness equipment, and surface support equipment. Installation of approved SPALTs is performed on a turnkey basis in conjunction with the procurement of equipment. Use of COTS/NDI has been initiated and is being implemented in all subsystems, wherever possible.</p> <p>Launcher and Handling Equipment (Cost code 6.4): Funding in FY 2019 provides for major Launcher SPALT activities including Maintenance Platform refresh, Ejector Group Handling Equipment (EGHE) refresh, Variable Energy Eject (VEE) Actuator refurbishment and Davit SPALT to address aging and obsolescence issues.</p> <p>Fire Control Equipment (Cost code 7.2): Funding in FY 2019 supports refreshes of the fire control software (FCS) and the development, deployment and IOC of FCS 652. FCS 652 contains 94 Computer Software Configuration Items (CSCIs), 1.8 million lines of code. The scope of one FC redesign will correct between 85 and 100 software defects, as well as include approximately 25 software modifications.</p> <p>Navigation Equipment (Cost code 8.2-8.5): Funding in FY19 provides support for efforts in problem correction, fleet documentation, and system modeling and simulations related to the Navigation system. Transducer (non-inertial) and Navigation SPALTS are being procured to replace legacy equipment. Additionally, FY 2019 efforts will support the removal of the GPS Antenna as well as testing of Navigation software code.</p> <p>Instrumentation/Missile Checkout equipment (Cost code 9.1): FY 2019 funding provides for Forecast Instrumentation SPALT for hardware modification to submarine instrumentation of flight systems. The majority of the Alterations funding supports the Shipboard System Integration (SSI) program which utilizes a COTS based strategy that integrates common electronics (from Fire Control, Launcher, Navigation and Shipboard Data Recording Systems) into the fire control sub-system as well as refreshing inertial systems in order to ensure the TRIDENT II (D5) weapon system can be sustained to FY 2042 in support of OHIO Class SSBNs. Below is a description of each SSI Increment (Inc):</p> <p>SSI Inc 1: Provides subsystems integration into the MOD 6/7 Tech Refresh for the Fire Control System (FCS) leaving the missile and guidance system interface unchanged. Also provides Ship/Strategic Weapons Support System (SWSS) SHIPALT's for ship interfaces that comprise of power, missile tube cabling, radio room, and Fire Control (FC) cabling. Installation is accomplished during 50 day refit periods without missile offload.</p> <p>SSI Inc 2: Introduction of an integrated Shipboard Data Systems (SDS) which is comprised of Data Recording Subsystem (DRS), Maintenance Information Network (MIN), and Electronic Work Log (EWL) subsystems. The DRS legacy functionality, connectivity, equipment is unchanged. The EWL subsystem provides software upgrades and the Window 7 Operating System upgrade. Provides subsystem SPALTs for SDS and Strategic Weapons System Maintenance Information Network (SWSMIN) and refresh portable computing devices.</p> <p>SSI Inc 4: Prerequisites are SSI Inc 1 and Inc 2. Inc 4 provides SWS Subsystem SPALTs which includes Mod 6/7 FCS Refresh SPALT, Navigation (NAV) Radio Frequency (RF) SPALT, SDS SPALT, and Cabling SPALT. For the FC Mod 6/7 Refresh it contains the technical refresh, integration and commonality of the system. The DRS legacy software modifies the support of the new NAV/SHIP/DRS and NAV/FC interfaces and format changes. For Navigation changes, the equipment remains in NAV Center. Supplies the first technical refresh in 25 years for Navigation Aids (NAVAIDS) Electronics, frequency standard, workstation, and NAV Control Panel (NCP).</p> <p>SSI Inc 8: Prerequisite is SSI Inc 4. Inc 8 provides replacement of the 30 year old ESGN which needs a refresh of inertial technology components, replacement of the Electronic Equipment Consoles (EEC), and updates to Navigation Subsystem software to accommodate the ESGN replacement navigator. Also, provides SWS subsystem SPALTs for FC and TTF NAV Lab trainers, and SDS (DRS) Software SPALT changes which are driven by data requirement changes. The SHIPALTs retain NAV Center bedplate, cabling, chilled water/ventilation, and retain electrical Power.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment		P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N
Line Item MDAP/MAIS Code: N/A		
<p>Efforts funded in Cost codes 13.4-13.6 & 13.8-13.10 in FY 2019 include:</p> <ul style="list-style-type: none">-Gyroscope and Inertial Navigation System (INS) performance and qualification testing-Validation testing of fleet and trainer documentation-Gyroscope Production increases from QTY 60 in FY 2018 to QTY 62 in FY 2019 including acceptance testing.-INS Production increases from QTY 6 in FY18 to QTY 9 in FY 2019-Increase in production of On Board Repair Parts (OBRP) for Gyroscope's and circuit card assemblies due to lead times, these parts are procured in FY 2019 to support the FY20 deployment.-Independent Verification and Validation for Inc 8 efforts-INS Production Software testing and qualification-Navigation SHIPALT in FY 2019 is for proofing and support of boat installation-Inc 8 Installation procedure and coordination definition <p>SSI Inc 10: Prerequisite is SSI Inc 2. Inc 10 provides for the refresh of Shipboard Data Systems.</p> <p>SSI Inc 11: Launcher Initiation System (LIS) is being developed for backfit onto OHIO Class D5LE SSI Inc 1 is a prerequisite. This provides a technical refresh of 30+ year old technology to ensure long term system reliability. SHIP/SWSS SHIPALT are to replace electrical cable with hybrid fiber-optic/electrical cable.</p> <p>Efforts funded in Cost codes 15.5-15.7 in FY 2019 include:</p> <ul style="list-style-type: none">-Procure Launcher SSI Inc 11 two (2) shipsets of Laser Firing Units-Installation of LIS SPALT kits and Fiber optic Cables <p>SSI Inc 13: Prerequisite is SSI Inc 4. Inc 13 provides Shipboard Systems Refresh for FCS, NAV, and Missile Test and Readiness Equipment (MTRE) to integrate within the subsystems.</p> <p>Efforts funded in Cost codes 16.1, 16.9-16.11 in FY 2019 include:</p> <ul style="list-style-type: none">-MTRE refresh to integrate with Fire Control software changes for SSI Inc 13-Procure and install Fire Control SSI Inc 13 Electronics' Refresh SPALTS Kits with a QTY 6-Continue to refresh and redesign of Fire Control Inc 13 <p>SSI Inc 15: Prerequisite is SSI Inc 13. Inc 15 provides pre-configuration and post-configuration support of Inc 8 and Inc 11. Inc 15 is a critical path for the deployment of the COLUMBIA CLASS SSBN. Inc 15 majorly involves refreshes to several subsystem such as alterations for fire control equipment, navigation, launcher, and trainer subsystems.</p> <p>Efforts funded in Cost Codes 17.1 - 17.4) in FY 2019 include:</p> <ul style="list-style-type: none">-Fire Control SSI Inc 15 development is for Concept Review (CR), Requirements Review (RR), Requirements Allocation Review (RAR), Preliminary Design Review (PDR) and Hardware Requirements Review (HWRR). Procurement and test of Life-cycle Cost Control (LCCC)/Technology Refresh SPALTs planned for fleet implementation to minimize impacts to USSTRATCOM targeting revisions.-Navigation SSI Inc 15 is for System Requirements Review, Subsystem Requirements Derivation and Subsystem Segment Requirements Allocation, Technical Objectives and Guidelines (TOG)/Coordination update. Update Subsystem Hardware and Software requirements analysis and development. Requirement specification and documentation update with product line implementation. Tactical, Trainer, and Auxiliary systems evaluation applicable to Ohio and continue Advanced Development Model Build. Begin Cyber Security assessment and implementation for Tactical and Cyber Security re-certification.-Launcher SSI Inc 15 is for systems engineering of 12 Emergency Proposed Notice of Change (EPNOC) during Preliminary Design Review. Develop weapon system and cabling SPALT and deliver system requirements/performance (Technical Objective Guidance). Inc 15 subsystems/system hazard assessments and documentation reviews. Provide support to SSI Deployment Development Teams <p>SSI Inc 16: Prerequisite is SSI Inc 15. Inc 16 provides Fire Control Subsystem refresh of SSI Inc 13 components, technical refresh of Shipboard Data System (SDS) subsystems, technical refresh of Navigation SSI Inc 4, and technical refresh of Launcher Variable Energy Eject (VEE) actuators to address obsolesce to sustain the fleet.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 4: FBM Support Equipment		P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0603561N, 0603595N, 0603570N, 0901211N, 0805376N, 0101228N
Line Item MDAP/MAIS Code: N/A		
<p>TRAINING SUPPORT EQUIPMENT This category provides for procurement of, and alterations to, both tactical and non-tactical equipment required at submarine training facilities to train personnel in the operation and maintenance of launcher and handling, fire control, navigation, missile checkout, and test instrumentation subsystems. Each training facility consists of an integrated family of system and unit laboratories that interface with a training simulation system to provide complete and realistic training for replacement and off-crew personnel, both officer and enlisted, as required for manning of SSBNs and shore facilities. Funding is budgeted to procure training-unique equipment required as the result of alterations to SWS tactical equipment, including those associated with D-5 life extension.</p> <p>Funds in Cost code 19.1 are required for software and hardware design modification, lab documentation modification, facility modification, and design and system integration, as well as procurement and fabrication of all hardware needed to support Navigation and Fire Control subsystem training at both the TTF, Bangor, and at TTF, Kings Bay. The required effort includes upgrade of the Bangor and Kings Bay Navigation and Fire Control trainers from SSI Inc 8 and Inc 13, Integration of Fire Control SSI Inc 8 PC Simulation, Inc 8 and Inc 13 Curricula development, and development of the Virtual Strategic Weapons System (SWSD) classroom trainers. Funding also addresses the need for acquisition of upgrades to the Bangor and Kings Bay TTFs resulting from tactical changes in the TRIDENT II (D5) missile under the Life Extension (LE) program. FY 2019 tasks will include the SSI Inc 8 PC Simulation, Inc 8 and Inc 13 Curricula development, and SSI Inc 13 that updates the software to the Fire Control System network and modifies the Navigation interface.</p> <p>NEW START Funding in Cost code 20.1-20.3 is in support of the Strategic Arms Reduction Treaty (New START) signed into law on 5 February 2011. New START is a nuclear arms reduction treaty between the United States and the Russian Federation which limits the number of deployed launchers.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip								Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
1) Other Material Support- Launcher and Handling Equipment																				
1.1) Casting Powder Lot Buy	A		1,926.333	9	17.337	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.2) Gas Generator Production ^(†)	A		310.300	60	18.618	327.038	8	2.616	333.578	8	2.669	340.249	10	3.402	-	-	-	340.249	10	3.402
1.3) Launch Tube Closures ^(†)	A		533.218	55	29.327	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.4) Ballast Production ^(†)	A		-	-	-	437.000	15	6.555	445.760	25	11.144	-	-	-	-	-	-	-	-	-
1.5) Ballast Installation	A		-	-	-	-	-	-	-	-	-	-	-	0.360	-	-	-	-	-	0.360
1.6) Second Explosives Handling Wharf (EHW) Support Equipment	A		-	-	5.864	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.7) Second Explosives Handling Wharf (EHW) Outfitting	A		-	-	5.925	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 1) Other Material Support-Launcher and Handling Equipment			-	-	77.071	-	-	9.171	-	-	13.813	-	-	3.762	-	-	-	-	-	3.762
2) Other Material Support-Fire Control Equipment																				
2.1) Nirop Capital Maintenance	A		-	-	24.277	-	-	2.722	-	-	5.014	-	-	8.962	-	-	-	-	-	8.962
2.2) Fire Control Auxillary Support Equipment	A		-	-	11.346	-	-	3.958	-	-	-	-	-	-	-	-	-	-	-	-
2.3) D5 Targeting Hardware	A		-	-	1.675	-	-	0.860	-	-	0.875	-	-	0.890	-	-	-	-	-	0.890
2.4) Advanced Inventory Logistics (SAIL)	A		-	-	3.219	-	-	1.371	-	-	1.344	-	-	0.432	-	-	-	-	-	0.432
2.5) Targeting Software Refresh	A		-	-	14.380	-	-	10.524	-	-	10.736	-	-	10.950	-	-	-	-	-	10.950
Subtotal: 2) Other Material Support-Fire Control Equipment			-	-	54.897	-	-	19.435	-	-	17.969	-	-	21.234	-	-	-	-	-	21.234
3) Other Material Support-Navigation Equipment																				
3.1) Stable Platform and Housing Material Kits ^(†)	A		362.815	27	9.796	378.000	2	0.756	385.560	4	1.542	393.271	4	1.573	-	-	-	393.271	4	1.573
3.2) Shock Isolation System Kits ^(†)	A		733.389	18	13.201	760.708	2	1.521	775.922	4	3.104	791.441	4	3.166	-	-	-	791.441	4	3.166
3.3) Factory Test Equipment	A		-	-	-	-	-	1.875	-	-	2.888	-	-	1.583	-	-	-	-	-	1.583

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip								Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Subtotal: 3) Other Material Support- Navigation Equipment			-	-	22.997	-	-	4.152	-	-	7.534	-	-	6.322	-	-	-	-	-	6.322
4) Other Material Support- Instrumentation/Missile Checkout Equipment																				
4.1) Umbilical Sets/ Kits ^(†)	A		1,948.000	4	7.792	-	-	-	-	-	-	2,742.000	1	2.742	-	-	-	2,742.000	1	2.742
4.2) Fire Suppression System	A		-	-	0.300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.3) Electronic Documentation Refresh	A		-	-	1.852	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.4) Data System Integration	A		-	-	1.848	-	-	0.396	-	-	0.403	-	-	0.435	-	-	-	-	-	0.435
4.5) Flight Test Instrumentation (FTI) Refresh	A		-	-	35.434	-	-	1.139	-	-	14.637	-	-	1.103	-	-	-	-	-	1.103
4.6) Range Systems Refresh	A		-	-	-	-	-	-	-	-	-	-	-	1.161	-	-	-	-	-	1.161
Subtotal: 4) Other Material Support- Instrumentation/Missile Checkout Equipment			-	-	47.226	-	-	1.535	-	-	15.040	-	-	5.441	-	-	-	-	-	5.441
5) Other Material Support- Information Technology																				
5.1) Hardware/ Software IT Procurement	A		-	-	15.536	-	-	2.629	-	-	2.768	-	-	2.811	-	-	-	-	-	2.811
Subtotal: 5) Other Material Support- Information Technology			-	-	15.536	-	-	2.629	-	-	2.768	-	-	2.811	-	-	-	-	-	2.811
6) Alterations-Launcher and Handling Equipment																				
6.1) Detonator Power Assembly SPALT	A		2,810.000	1	2.810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.2) Detonator Relay Box SPALT	A		1,902.000	2	3.804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.3) Hoist ^(†)	A		1,573.500	10	15.735	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.4) Launcher SPALTs	A		-	-	13.544	-	-	13.468	-	-	16.770	-	-	14.148	-	-	-	-	-	14.148
Subtotal: 6) Alterations-Launcher and Handling Equipment			-	-	35.893	-	-	13.468	-	-	16.770	-	-	14.148	-	-	-	-	-	14.148
7) Alterations-Fire Control																				
7.1) Portable Computing Devices (PCD) Refresh SPALT	A		-	-	2.833	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.2) Minor SPALTS	A		-	-	5.520	-	-	5.034	-	-	11.325	-	-	11.506	-	-	-	-	-	11.506
Subtotal: 7) Alterations-Fire Control			-	-	8.353	-	-	5.034	-	-	11.325	-	-	11.506	-	-	-	-	-	11.506
8) Alterations-Navigation Equipment																				

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Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip								Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
8.1) Navigation Sonar System (NSS) Sensor Qualification	A		-	-	17.285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8.2) Legacy ESGN SPALTs	A		-	-	9.039	-	-	4.642	-	-	4.759	-	-	-	-	-	-	-	-	-
8.3) TSSS Transducer SPALTs	A		-	-	2.714	-	-	1.820	-	-	1.855	-	-	2.489	-	-	-	-	-	2.489
8.4) Navigation Software SPALTs	A		-	-	8.214	-	-	4.009	-	-	4.081	-	-	2.954	-	-	-	-	-	2.954
8.5) GPS Antenna Refresh	A		-	-	-	-	-	1.500	-	-	4.025	-	-	3.833	-	-	-	-	-	3.833
Subtotal: 8) Alterations-Navgation Equipment			-	-	37.252	-	-	11.971	-	-	14.720	-	-	9.276	-	-	-	-	-	9.276
9) Alterations-Instrumentation/Missle Checkout Equipment																				
9.1) Forecast Instrumentation SPALTs	A		-	-	4.435	-	-	0.776	-	-	0.790	-	-	0.804	-	-	-	-	-	0.804
Subtotal: 9) Alterations-Instrumentation/Missle Checkout Equipment			-	-	4.435	-	-	0.776	-	-	0.790	-	-	0.804	-	-	-	-	-	0.804
10) SSI Increment 1																				
10.1) SSI Increment #1 Production (SHIPALT/SPALT)	A		3,322.583	12	39.871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 10) SSI Increment 1			-	-	39.871	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11) SSI Increment 2																				
11.1) SSI Increment #2 Production	A		384.207	29	11.142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.2) SSI Increment #2 Refresh/Redesign	A		-	-	8.215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 11) SSI Increment 2			-	-	19.357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12) SSI Increment 4																				
12.1) Navigation SSI Increment 4 Refresh/Redesign	A		-	-	60.760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.2) Navigation Pre-Production Units Electronics SPALT Kits	A		1,450.000	3	4.350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.3) Navigation SSI Increment 4 GPS Receiver Production	A		374.417	12	4.493	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.4) Navigation SSI Increment 4 Electronic SPALT Kits	A		1,000.000	21	21.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip								Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
12.5) Navigation SSI Increment 4 On Board Repair Parts	A		-	-	6.609	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.6) Navigation SSI Increment 4 Engineering and Test	A		-	-	58.654	-	-	9.238	-	-	-	-	-	-	-	-	-	-	-	-
12.7) Navigation SSI Increment 4 SHIPALT and Installation	A		-	-	5.301	-	-	6.824	-	-	8.720	-	-	-	-	-	-	-	-	-
12.8) Fire Control SSI Increment 4 Refresh/Redesign	A		-	-	27.451	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.9) Fire Control SSI Increment 4 SPALT Kit Production ^(t)	A		2,837.571	21	59.589	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.10) Fire Control SSI Increment 4 Installation Kits	A		-	-	1.145	-	-	1.288	-	-	1.722	-	-	-	-	-	-	-	-	-
Subtotal: 12) SSI Increment 4			-	-	249.352	-	-	17.350	-	-	10.442	-	-	-	-	-	-	-	-	-
13) SSI Increment 8																				
13.1) Navigation SSI Increment 8 Pre-Production Gyroscope	A		400.000	30	12.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.2) Navigation SSI Increment 8 Pre-Production Inertial Navigation System	A		1,500.000	8	12.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.3) Navigation SSI Increment 8 Refresh/Redesign	A		-	-	119.802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.4) Navigation SSI Increment 8 Engineering and Test	A		-	-	111.228	-	-	50.954	-	-	40.385	-	-	38.510	-	-	-	-	-	38.510
13.5) Navigation SSI Increment 8 Independent verification and validation	A		-	-	6.636	-	-	3.675	-	-	3.755	-	-	3.219	-	-	-	-	-	3.219
13.6) Navigation SSI Increment 8 Production Gyroscope ^(t)	A		375.000	50	18.750	382.500	50	19.125	390.150	60	23.409	397.953	62	24.673	-	-	-	397.953	62	24.673
13.7) Navigation SSI Increment 8 SPALT Engineering drawings	A		-	-	7.419	-	-	2.645	-	-	-	-	-	-	-	-	-	-	-	-

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4							P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip								Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
13.8) Navigation SSI Increment 8 On Board Repair Parts (OBRPs)	A		-	-	-	-	-	-	-	-	3.000	-	-	9.000	-	-	-	-	-	9.000
13.9) Navigation SSI Increment 8 Production INS ^(†)	A		-	-	-	-	-	-	1,421.000	6	8.526	1,449.420	9	13.045	-	-	-	1,449.420	9	13.045
13.10) Navigation SSI Increment 8 SHIPALT / Installation	A		-	-	-	-	-	-	-	-	1.426	-	-	3.925	-	-	-	-	-	3.925
Subtotal: 13) SSI Increment 8			-	-	287.835	-	-	76.399	-	-	80.501	-	-	92.372	-	-	-	-	-	92.372
14) SSI Increment 10																				
14.1) Fire Control SSI Increment 10 Shipboard Data System (SDS) SPALT Refresh	A		-	-	5.804	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.2) Fire Control SSI Increment 10 SDS SPALT Kits ^(†)	A		253.000	14	3.542	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.3) Fire Control SSI Increment 10 SDS Install	A		-	-	-	-	-	0.490	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 14) SSI Increment 10			-	-	9.346	-	-	0.490	-	-	-	-	-	-	-	-	-	-	-	-
15) SSI Increment 11																				
15.1) Launcher SSI Increment 11 LIS Redesign	A		-	-	10.288	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.2) Launcher Increment 11 System Integration Testing	A		-	-	5.404	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.3) Launcher SSI Increment 11 LIS Support Equipment/ Fiberoptic Cables	A		-	-	3.496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.4) Launcher SSI Increment 11 LIS Engineering and Test	A		-	-	10.973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)	A		1,840.500	12	22.086	1,606.000	2	3.212	-	-	-	1,670.000	2	3.340	-	-	-	1,670.000	2	3.340
15.6) Launcher SSI Increment 11 LIS Fiberoptic Cables Installation	A		-	-	1.567	-	-	0.539	-	-	1.096	-	-	1.551	-	-	-	-	-	1.551

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4								P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip							Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
15.7) Fire Control SSI Increment 11 LIS SPALT Installs	A		-	-	4.436	-	-	1.341	-	-	1.847	-	-	1.595	-	-	-	-	-	1.595
Subtotal: 15) SSI Increment 11			-	-	58.250	-	-	5.092	-	-	2.943	-	-	6.486	-	-	-	-	-	6.486
16) SSI Increment 13																				
16.1) Instrumentation/ Missile SSI Increment 13 MTRE Refresh	A		-	-	9.666	-	-	2.920	-	-	2.739	-	-	2.393	-	-	-	-	-	2.393
16.2) Navigation SSI Increment 13 Refresh/ Redesign	A		-	-	21.975	-	-	17.649	-	-	14.942	-	-	-	-	-	-	-	-	-
16.3) Navigation SSI Increment 13 Shipalt	A		-	-	-	-	-	0.210	-	-	0.365	-	-	-	-	-	-	-	-	-
16.4) Navigation SSI Increment 13 Independent Verification & Validation	A		-	-	-	-	-	0.333	-	-	0.547	-	-	-	-	-	-	-	-	-
16.5) Navigation SSI Increment 13 SPALT Kit Pre-Production ^(†)	A		-	-	-	-	-	-	536.000	6	3.216	-	-	-	-	-	-	-	-	-
16.7) Navigation SSI Increment 13 On Board Repair Parts (OBRPs)	A		-	-	-	-	-	-	-	-	0.551	-	-	-	-	-	-	-	-	-
16.9) Fire Control SSI Increment 13 Refresh/ Redesign	A		-	-	42.698	-	-	13.937	-	-	13.658	-	-	12.905	-	-	-	-	-	12.905
16.10) Fire Control SSI Increment 13 Electronics Refresh SPALT Kits ^(†)	A		-	-	-	-	-	-	-	-	-	2,296.833	6	13.781	-	-	-	2,296.833	6	13.781
16.11) Fire Control SSI Increment 13 Installation	A		-	-	-	-	-	-	-	-	-	-	-	0.855	-	-	-	-	-	0.855
Subtotal: 16) SSI Increment 13			-	-	74.339	-	-	35.049	-	-	36.018	-	-	29.934	-	-	-	-	-	29.934
17) SSI Increment 15																				
17.1) Navigation SSI Increment 15 Refresh/ Redesign	A		-	-	-	-	-	-	-	-	0.935	-	-	14.440	-	-	-	-	-	14.440
17.2) Fire Control SSI Increment 15 Refresh/ Redesign	A		-	-	-	-	-	-	-	-	1.417	-	-	34.552	-	-	-	-	-	34.552
17.4) Launcher SSI Increment 15 Refresh/ Redesign	A		-	-	-	-	-	-	-	-	-	-	-	8.354	-	-	-	-	-	8.354

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4						P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip									Aggregated Items Title: Strategic Missile Systems Equip					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$ K)	Qty (Each)	Total Cost (\$ M)
Subtotal: 17) SSI Increment 15			-	-	0.000	-	-	-	-	-	2.352	-	-	57.346	-	-	-	-	-	57.346
19) Training Support Equipment																				
19.1) Training Support Equipment	A		-	-	89.200	-	-	8.252	-	-	11.701	-	-	10.375	-	-	-	-	-	10.375
Subtotal: 19) Training Support Equipment			-	-	89.200	-	-	8.252	-	-	11.701	-	-	10.375	-	-	-	-	-	10.375
20) New START																				
20.1) Ballast Production & Support Equipment	A		-	-	8.175	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20.2) Steel Closure Design, Procurement & Material	A		-	-	33.613	-	-	1.535	-	-	1.535	-	-	-	-	-	-	-	-	
20.3) Material Support, Removed/Converted Hardware	A		-	-	29.100	-	-	2.800	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 20) New START			-	-	70.888	-	-	4.335	-	-	1.535	-	-	-	-	-	-	-	-	
Total			-	-	1,202.098	-	-	215.138	-	-	246.221	-	-	271.817	-	-	-	-	-	

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4				P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip					Aggregated Items: Strategic Missile Systems Equip			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) Other Material Support- Launcher and Handling Equipment												
1.2) Gas Generator Production		2014	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Dec 2013	Dec 2015	8	309.500	Y		
1.2) Gas Generator Production		2015	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Feb 2015	Feb 2017	8	314.500	Y		
1.2) Gas Generator Production		2016	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Mar 2016	Mar 2018	8	320.625	Y		
1.2) Gas Generator Production		2017	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Mar 2017	Mar 2019	8	327.038	Y		
1.2) Gas Generator Production		2018	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Mar 2018	Mar 2020	8	333.578	Y		
1.2) Gas Generator Production		2019	Alliant Tech Systems / Rocket Center, WV	C / CPFF	Washington Navy Yard, DC	Mar 2019	Mar 2021	10	340.249	Y		
1.3) Launch Tube Closures ^(†)		2015	NORTHROP GRUMMAN (Launch Tube Closures) / Sunnyvale, CA	C / CPIF	Washington Navy Yard, DC	Feb 2015	Feb 2017	18	539.556	Y		
1.4) Ballast Production ^(†)		2017	Lockheed Martin / Sunnyvale, CA	C / CPIF	Washington Navy Yard, DC	Mar 2017	Mar 2018	15	437.000	Y		
1.4) Ballast Production ^(†)		2018	Lockheed Martin / Sunnyvale, CA	C / CPIF	Washington Navy Yard, DC	Mar 2018	Mar 2019	25	445.760	Y		
3) Other Material Support-Navigation Equipment												
3.1) Stable Platform and Housing Material Kits		2014	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Jan 2014	Jan 2016	6	358.333	Y		
3.1) Stable Platform and Housing Material Kits		2015	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Feb 2015	Feb 2017	6	364.500	Y		
3.1) Stable Platform and Housing Material Kits		2016	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Oct 2015	Oct 2017	5	371.000	Y		
3.1) Stable Platform and Housing Material Kits		2017	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Oct 2016	Oct 2018	2	378.000	Y		
3.1) Stable Platform and Housing Material Kits		2018	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Oct 2017	Oct 2019	4	385.560	Y		
3.1) Stable Platform and Housing Material Kits		2019	Boeing / Anaheim, CA	C / CPFF	Washington Navy Yard, DC	Oct 2018	Oct 2020	4	393.271	Y		
3.2) Shock Isolation System Kits		2015	Boeing / Anaheim, CA	C / CPIF	Washington Navy Yard, DC	Feb 2015	Feb 2016	6	733.000	Y		
3.2) Shock Isolation System Kits		2016	Boeing / Anaheim, CA	C / CPIF	Washington Navy Yard, DC	Oct 2015	Oct 2016	6	747.000	Y		
3.2) Shock Isolation System Kits		2017	Boeing / Anaheim, CA	C / CPIF	Washington Navy Yard, DC	Oct 2016	Oct 2017	2	760.708	Y		
3.2) Shock Isolation System Kits		2018	Boeing / Anaheim, CA	C / CPIF	Washington Navy Yard, DC	Oct 2017	Oct 2018	4	775.922	Y		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4				P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip					Aggregated Items: Strategic Missile Systems Equip			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3.2) Shock Isolation System Kits		2019	Boeing / Anaheim, CA	C / CPIF	Washington Navy Yard, DC	Oct 2018	Oct 2019	4	791.441	Y		
4) Other Material Support- Instrumentation/Missile Checkout Equipment												
4.1) Umbilical Sets/Kits		2013	Lockheed Martin / Sunnyvale,CA	C / CPIF	Washington Navy Yard, DC	Dec 2012	Dec 2015	1	1,948.000	Y		
4.1) Umbilical Sets/Kits		2014	Lockheed Martin / Sunnyvale,CA	C / CPIF	Washington Navy Yard, DC	Dec 2013	Dec 2016	1	1,948.000	Y		
4.1) Umbilical Sets/Kits		2019	Lockheed Martin / Sunnyvale,CA	C / CPIF	Washington Navy Yard, DC	Oct 2018	Oct 2021	1	2,742.000	Y		
6) Alterations-Launcher and Handling Equipment												
6.3) Hoist		2014	NORTHROP GRUMMAN / Sunnyvale, CA	C / CPFF	Washington Navy Yard, DC	Dec 2013	Mar 2016	2	1,556.500	Y		
6.3) Hoist		2015	NORTHROP GRUMMAN / Sunnyvale, CA	C / CPFF	Washington Navy Yard, DC	Feb 2015	May 2017	2	1,585.000	Y		
6.3) Hoist		2016	NORTHROP GRUMMAN / Sunnyvale, CA	C / CPFF	Washington Navy Yard, DC	Oct 2015	Jan 2018	2	1,613.000	Y		
12) SSI Increment 4												
12.9) Fire Control SSI Increment 4 SPALT Kit Production ^(†)		2014	General Dynamics (SSI Increment #4 MOD 6 Refresh SPALT Kit Production) / Pittsfield, MA	C / CPIF	Washington Navy Yard, DC	Dec 2013	Dec 2016	4	2,835.000	Y		
12.9) Fire Control SSI Increment 4 SPALT Kit Production ^(†)		2015	General Dynamics (SSI Increment #4 MOD 6 Refresh SPALT Kit Production) / Pittsfield, MA	C / CPIF	Washington Navy Yard, DC	Feb 2015	Feb 2018	1	2,886.000	Y		
13) SSI Increment 8												
13.6) Navigation SSI Increment 8 Production Gyroscope ^(†)		2016	Lockheed Martin (SSI Increment #8 Gyroscope) / Mitchfield, NY	C / CPIF	Washington Navy Yard, DC	Jan 2016	Apr 2017	50	375.000	Y		
13.6) Navigation SSI Increment 8 Production Gyroscope ^(†)		2017	Lockheed Martin (SSI Increment #8 Gyroscope) / Mitchfield, NY	C / CPIF	Washington Navy Yard, DC	May 2017	Aug 2018	50	382.500	Y		
13.6) Navigation SSI Increment 8 Production Gyroscope ^(†)		2018	Lockheed Martin (SSI Increment #8 Gyroscope) / Mitchfield, NY	C / CPIF	Washington Navy Yard, DC	Jan 2018	Jun 2019	60	390.150	Y		
13.6) Navigation SSI Increment 8 Production Gyroscope ^(†)		2019	Lockheed Martin (SSI Increment #8 Gyroscope) / Mitchfield, NY	C / TBD	Washington Navy Yard, DC	Jan 2019	Jun 2020	62	397.953	Y		
13.9) Navigation SSI Increment 8 Production INS ^(†)		2018	Lockheed Martin (SSI Increment #8 EDM Inertial Navigation System (INS)) / Mitchfield,NY	C / CPFF	Washington Navy Yard, DC	Jan 2018	Feb 2019	6	1,421.000	Y		
13.9) Navigation SSI Increment 8 Production INS ^(†)		2019	Lockheed Martin (SSI Increment #8 EDM Inertial Navigation System (INS)) / Mitchfield,NY	C / TBD	Washington Navy Yard, DC	Jan 2019	Feb 2020	9	1,449.420	Y		
14) SSI Increment 10												

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4				P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip					Aggregated Items: Strategic Missile Systems Equip			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$ K)	Specs Avail Now?	Date Revision Available	RFP Issue Date
14.2) Fire Control SSI Increment 10 SDS SPALT Kits		2016	General Dynamics (SSI Increment #10 SDS SPALT kit) / Pittsfield, MA	C / CPIF	Washington Navy Yard, DC	Oct 2015	Oct 2017	14	253.000	Y		
15) SSI Increment 11												
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)		2013	NORTHROP GRUMMAN (LIS Firing Units (FUs)/Launch Safing Units (LSUs) / Sunnyvale, CA	C / CPIF	Washington Navy Yard, DC	Oct 2012	Jul 2015	2	2,730.000	Y		
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)		2014	NORTHROP GRUMMAN (LIS Firing Units (FUs)/Launch Safing Units (LSUs) / Sunnyvale, CA	C / FFP	Washington Navy Yard, DC	Dec 2013	Sep 2016	1	2,730.000	Y		
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)		2015	NORTHROP GRUMMAN (LIS Firing Units (FUs)/Launch Safing Units (LSUs) / Sunnyvale, CA	C / FFP	Washington Navy Yard, DC	Feb 2015	Nov 2017	9	1,544.000	Y		
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)		2017	NORTHROP GRUMMAN (LIS Firing Units (FUs)/Launch Safing Units (LSUs) / Sunnyvale, CA	C / CPFF	Washington Navy Yard, DC	Nov 2016	Aug 2019	2	1,606.000	Y		
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units ^(†)		2019	NORTHROP GRUMMAN (LIS Firing Units (FUs)/Launch Safing Units (LSUs) / Sunnyvale, CA	C / TBD	Washington Navy Yard, DC	Feb 2019	Nov 2021	2	1,670.000	Y		
16) SSI Increment 13												
16.5) Navigation SSI Increment 13 SPALT Kit Pre-Production ^(†)		2018	Lockheed Martin (SSI Increment #13 SPALT) / Mitchfield, NY	C / CPIF	Washington Navy Yard, DC	Jan 2018	Aug 2018	6	536.000	Y		
16.10) Fire Control SSI Increment 13 Electronics Refresh SPALT Kits ^(†)		2019	General Dynamics (SSI Increment #13 FC Electronic Refresh SPALT Kits) / Pittsfield, MA	C / TBD	Washington Navy Yard, DC	Oct 2018	Oct 2019	6	2,296.833	Y		
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity:										P-1 Line Item Number / Title:										Aggregated Items:														
1810N / 04 / 4										5358 / Strategic Missile Systems Equip										Strategic Missile Systems Equip														
Items <i>(Units in Each)</i>							Fiscal Year 2013										Fiscal Year 2014														B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2012	BAL DUE AS OF 1 OCT	Calendar Year 2013										Calendar Year 2014																	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1) Other Material Support- Launcher and Handling Equipment																																		
1.3) Launch Tube Closures																																		
Prior Years Deliveries: 37																																		
	3	2015	NAVY		18	0	18																				18							
1.4) Ballast Production																																		
	4	2017	NAVY		15	0	15																				15							
	4	2018	NAVY		25	0	25																				25							
12) SSI Increment 4																																		
12.9) Fire Control SSI Increment 4 SPALT Kit Production																																		
Prior Years Deliveries: 16																																		
	5	2014	NAVY		4	0	4															A	-	-	-	-	-	-	-	-	-	-	-	4
	5	2015	NAVY		1	0	1																											1
13) SSI Increment 8																																		
13.6) Navigation SSI Increment 8 Production Gyroscope																																		
	6	2016	NAVY		50	0	50																				50							
	6	2017	NAVY		50	0	50																				50							
	6	2018	NAVY		60	0	60																				60							
	6	2019	NAVY		62	0	62																				62							
13.9) Navigation SSI Increment 8 Production INS																																		
	7	2018	NAVY		6	0	6																				6							
	7	2019	NAVY		9	0	9																				9							
15) SSI Increment 11																																		
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units																																		
	8	2013	NAVY		2	0	2	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2						
	8	2014	NAVY		1	0	1															A	-	-	-	-	-	-	-	-	-	-	1	
	8	2015	NAVY		9	0	9																				9							
	8	2017	NAVY		2	0	2																				2							
	8	2019	NAVY		2	0	2																				2							
16) SSI Increment 13																																		
16.5) Navigation SSI Increment 13 SPALT Kit Pre-Production																																		
	9	2018	NAVY		6	0	6																				6							
16.10) Fire Control SSI Increment 13 Electronics Refresh SPALT Kits																																		
	10	2019	NAVY		6	0	6																				6							
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																							Date: February 2018										
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4										P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip													Aggregated Items: Strategic Missile Systems Equip										
Items <i>(Units in Each)</i>							Fiscal Year 2015												Fiscal Year 2016													B A L A N C E	
O C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2014	BAL DUE AS OF 1 OCT	Calendar Year 2015															Calendar Year 2016											
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			
1) Other Material Support- Launcher and Handling Equipment																																	
1.3) Launch Tube Closures																																	
Prior Years Deliveries: 37																																	
	3	2015	NAVY	18	0	18						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	
1.4) Ballast Production																																	
	4	2017	NAVY	15	0	15																										15	
	4	2018	NAVY	25	0	25																										25	
12) SSI Increment 4																																	
12.9) Fire Control SSI Increment 4 SPALT Kit Production																																	
Prior Years Deliveries: 16																																	
	5	2014	NAVY	4	0	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	
	5	2015	NAVY	1	0	1						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
13) SSI Increment 8																																	
13.6) Navigation SSI Increment 8 Production Gyroscope																																	
	6	2016	NAVY	50	0	50																A -	-	-	-	-	-	-	-	-	-	50	
	6	2017	NAVY	50	0	50																										50	
	6	2018	NAVY	60	0	60																										60	
	6	2019	NAVY	62	0	62																										62	
13.9) Navigation SSI Increment 8 Production INS																																	
	7	2018	NAVY	6	0	6																										6	
	7	2019	NAVY	9	0	9																										9	
15) SSI Increment 11																																	
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units																																	
	8	2013	NAVY	2	0	2	-	-	-	-	-	-	-	-	-	1	1															0	
	8	2014	NAVY	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	
	8	2015	NAVY	9	0	9						A -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	
	8	2017	NAVY	2	0	2																										2	
	8	2019	NAVY	2	0	2																										2	
16) SSI Increment 13																																	
16.5) Navigation SSI Increment 13 SPALT Kit Pre-Production																																	
	9	2018	NAVY	6	0	6																										6	
16.10) Fire Control SSI Increment 13 Electronics Refresh SPALT Kits																																	
	10	2019	NAVY	6	0	6																										6	
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P			

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LI 5358 - Strategic Missile Systems Equip
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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																
Appropriation / Budget Activity / Budget Sub Activity:							P-1 Line Item Number / Title:														Aggregated Items:														
1810N / 04 / 4							5358 / Strategic Missile Systems Equip														Strategic Missile Systems Equip														
Items (Units in Each)							Fiscal Year 2021														Fiscal Year 2022														B A L A N C E
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021														Calendar Year 2022														
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P					
1) Other Material Support- Launcher and Handling Equipment																																			
1.3) Launch Tube Closures																																			
Prior Years Deliveries: 37																																			
3	2015	NAVY		18	18	0																											0		
1.4) Ballast Production																																			
4	2017	NAVY		15	15	0																											0		
4	2018	NAVY		25	25	0																											0		
12) SSI Increment 4																																			
12.9) Fire Control SSI Increment 4 SPALT Kit Production																																			
Prior Years Deliveries: 16																																			
5	2014	NAVY		4	4	0																											0		
5	2015	NAVY		1	1	0																											0		
13) SSI Increment 8																																			
13.6) Navigation SSI Increment 8 Production Gyroscope																																			
6	2016	NAVY		50	50	0																											0		
6	2017	NAVY		50	50	0																											0		
6	2018	NAVY		60	60	0																											0		
6	2019	NAVY		62	20	42	5	5	5	5	5	5	6	6																			0		
13.9) Navigation SSI Increment 8 Production INS																																			
7	2018	NAVY		6	6	0																											0		
7	2019	NAVY		9	7	2	-	1	-	1																						0			
15) SSI Increment 11																																			
15.5) Launcher SSI Increment 11 Firing Units/Launch Safing Units																																			
8	2013	NAVY		2	2	0																											0		
8	2014	NAVY		1	1	0																											0		
8	2015	NAVY		9	9	0																											0		
8	2017	NAVY		2	2	0																											0		
8	2019	NAVY		2	0	2	-	-	-	-	-	-	-	-	-	-	-	-	1	1													0		
16) SSI Increment 13																																			
16.5) Navigation SSI Increment 13 SPALT Kit Pre-Production																																			
9	2018	NAVY		6	6	0																											0		
16.10) Fire Control SSI Increment 13 Electronics Refresh SPALT Kits																																			
10	2019	NAVY		6	6	0	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	0				

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Exhibit P-21, Production Schedule: PB 2019 Navy								Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 4				P-1 Line Item Number / Title: 5358 / Strategic Missile Systems Equip				Aggregated Items: Strategic Missile Systems Equip			

MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	NORTHROP GRUMMAN (Launch Tube Closures) - Sunnyvale, CA	17	24	36	0	2	24	26	0	2	24	26
2	Lockheed Martin - Sunnyvale, CA	15	20	25	0	6	0	6	0	6	0	6
3	General Dynamics (SSI Increment #4 MOD 6 Refresh SPALT Kit Production) - Pittsfield, MA	1	12	24	0	2	24	26	0	2	24	26
4	Lockheed Martin (SSI Increment #8 Gyroscope) - Mitchfield, NY	10	72	96	0	0	15	15	0	0	15	15
5	Lockheed Martin (SSI Increment #8 EDM Inertial Navigation System (INS)) - Mitchfield,NY	6	12	16	0	0	13	13	0	0	13	13
6	NORTHROP GRUMMAN (LIS Firing Units (FUs)/ Launch Safing Units (LSUs) - Sunnyvale, CA	2	4	15	0	0	12	12	0	0	9	9
7	Lockheed Martin (SSI Increment #13 SPALT) - Mitchfield, NY	3	5	7	0	0	7	7	0	0	7	7
8	General Dynamics (SSI Increment #13 FC Electronic Refresh SPALT Kits) - Pittsfield, MA	2	5	15	0	0	12	12	0	0	12	12

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment							P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems					
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A				Other Related Program Elements: 0604562N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	590.104	144.715	129.972	129.501	0.000	129.501	149.915	225.596	197.049	261.229	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	590.104	144.715	129.972	129.501	0.000	129.501	149.915	225.596	197.049	261.229	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	590.104	144.715	129.972	129.501	0.000	129.501	149.915	225.596	197.049	261.229	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	1.771	4.744	1.792	-	1.792	6.058	6.371	7.027	2.340	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

VB011 - COMBAT SYSTEMS TECHNOLOGY REFRESH / LEGACY INTEGRATION
 Procures tactical control hardware upgrades to SSN688, SSN688I, SSBN, SSN 21, and SSGN Class submarines for legacy combat control systems and obsolete legacy launcher systems. These updates provide accelerated delivery of tactical capability to the fleet and bridge the gap between legacy combat control systems and AN/BYG-1. Procures Engineering Changes (EC) and Ordnance Alterations (ORDALT) to correct fleet reported problems with legacy Combat Control System software and hardware. Procures Weapons Launch System, Multi-tube Weapon System (MTWS) and provides support for fleet introduction of the Common Weapon Launcher (CWL) transition and integration into the TI/APB process. Provides system engineering in support of Tactical Local Area Network (TacLAN); Information Assurance (IA); Onboard Team Trainer (OBTT); and Command, Control, Computer and Intelligence Maintenance Tool (C3IMT).

VB034 - SUBMARINE COMBAT CONTROL SYSTEM MODERNIZATION PROGRAM
 This cost code procures hardware and software upgrades for the AN/BYG-1 system for installation on all submarine platforms. The AN/BYG-1 is the combat control system common across all submarine platforms which incorporates tactical control, weapon control and Tactical Local Area Network (TacLAN) functions into a single procurement program. AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrates the common tactical picture into the battlegroup, improves torpedo interfaces and provides tactical TOMAHAWK capability. AN/BYG-1 systems will be continuously updated with hardware enhancements to address COTS obsolescence and capability improvements as defined by the Advanced Processor Build (APB) process. These updates are referred to as Tech Insertion (TI) kits and are differentiated by year of development (i.e. T110, T112, etc). The TI upgrades provide the baseline for all future AN/BYG-1 procurements. In addition, this budget also provides tech insertion "kits" to update existing AN/BYG-1 platforms. The AN/BYG-1 nomenclature was adopted in FY05 and out to incorporate the addition of Virginia Class Combat Control System to a common acquisition and development strategy. This allows for AN/BYG-1 to be the common combat control system nomenclature across all submarine platforms. Funds are for the installation of Combat Control System equipment included in the Fleet Modernization Program.

VB800 - ELECTRONIC CHARTING DISPLAY INFORMATION SYSTEM
 The AN/BPS-15/16 Radar with Submarine Electronic Charting Display Information System - Navy (ECDIS-N) is installed on all U.S. Navy submarine platforms. Program responsibilities for components associated with the AN/BPS-15/16, specifically the mast, mast components and hydraulic support systems as well as the unique submarine specific navigation requirements, and conducting submarine Voyage Management System (VMS) 8.3.4 and VMS 9.3 integration, testing, ECDIS-N certification, and fielding responsibilities in support of all baselines.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment		P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604562N
Line Item MDAP/MAIS Code: N/A		
VB995 PRODUCTION ENGINEERING AND INITIAL TRAINING - This cost code procures production and logistics support, assistance for asset management, cost analyses, preparation of contract specifications, monitoring of contract deliverables, contractor cost, schedule and performance monitoring, Integrated Logistics Support (ILS) planning and Government Furnished Information (GFI) coordination. This cost code also provides initial training curriculum development, training management materials, exercise control group development, and pilot services to the Fleet.		
VB997 - SSGN SUSTAINING SUPPORT The SSP funding provides for the procurement, installation and sustainment of equipment required for the life-cycle operational support of SSGN Attack Weapons Systems (AWS) for the four OHIO-class SSGNs. OPN sustaining support funding provides for SSGN AWS logistics acquisition support and for Attack Weapon Control System (AWCS) alterations that provide technical refresh updates to the AWCS and to two shore-based trainers located at Kings Bay, GA and Bangor, WA. The AWCS alterations will provide technical refresh upgrades to include the Tactical TOMAHAWK Weapon Control Systems (TTWCS) 5.4.0.2 and TOMAHAWK Command and Control System (TC2S 5.0.1) software necessary to ensure the long-term safety, reliability and maintainability of the Attack Weapons Control System. TTWCS 5.4.0.2 and TC2S 5.0.1 software are required for the SSGN Strike Operations to continue the Fleet's mission. TTWCS 5.6 is required to maintain compatibility with modernized TOMAHAWK missiles. The modernized TOMAHAWK supports emerging missions for which the SSGN is the prime platform for deployment. The TTWCS updates are critical to the ability to fire Tomahawk missiles from the SSGNs. FY19 effort support the TTWCS 5.6 update required to maintain compatibility with modernized TOMAHAWK missiles. The modernized TOMAHAWK supports emerging missions for which the SSGN is the prime platform for deployment. The TTWCS updates are critical to the ability to fire Tomahawk missiles from the SSGNs.		
VB700 - PAYLOAD PROCUREMENT Procurement of COTS/GOTS payloads to include UAS vehicles for integration, verification, and validation.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy			Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment			P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems		
ID Code (A=Service Ready, B=Not Service Ready): A		Program Elements for Code B Items: N/A		Other Related Program Elements: 0604562N	
Line Item MDAP/MAIS Code: N/A					

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	SSN Combat Control Systems	P-5a			- / 277.956	- / 41.594	- / 36.808	- / 47.049	- / -	- / 47.049
P-3a	1 / VB034 SSBN MODERNIZATION WITH AN/BYG-1 (UPGRADE)				- / 8.348	- / 25.597	- / 32.631	- / 28.867	- / 0.000	- / 28.867
P-3a	2 / VB034 SSBN MODERNIZATION TECH INSERTION (SSBN CLASS)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-3a	3 / VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS (UPGRADE)				- / 62.858	- / 7.040	- / 1.799	- / 0.000	- / 0.000	- / 0.000
P-3a	4 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS (UPGRADE)				- / 22.053	- / 0.000	- / 0.000	- / 6.363	- / 0.000	- / 6.363
P-3a	5 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS (UPGRADE)				- / 16.274	- / 7.424	- / 7.565	- / 4.517	- / 0.000	- / 4.517
P-3a	6 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS (UPGRADE)				- / 188.783	- / 17.287	- / 18.855	- / 37.200	- / 0.000	- / 37.200
P-3a	7 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS (UPGRADE)				- / 13.832	- / 45.773	- / 32.314	- / 5.505	- / 0.000	- / 5.505
P-3a	8 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL (TBD)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000
P-40	Total Gross/Weapon System Cost				- / 590.104	- / 144.715	- / 129.972	- / 129.501	- / 0.000	- / 129.501

Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	SSN Combat Control Systems	P-5a			- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / VB034 SSBN MODERNIZATION WITH AN/BYG-1 (UPGRADE)				- / 27.137	- / 25.438	- / 7.087	- / 0.000	- / 0.000	- / 155.105
P-3a	2 / VB034 SSBN MODERNIZATION TECH INSERTION (SSBN CLASS)				- / 0.000	- / 0.000	- / 13.504	- / 23.765	- / 10.188	- / 47.457
P-3a	3 / VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS (UPGRADE)				- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 71.697
P-3a	4 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS (UPGRADE)				- / 11.196	- / 4.801	- / 0.000	- / 0.000	- / 0.000	- / 44.413
P-3a	5 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS (UPGRADE)				- / 0.000	- / 0.000	- / 3.396	- / 8.353	- / 4.987	- / 52.516
P-3a	6 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS (UPGRADE)				- / 34.675	- / 15.577	- / 13.606	- / 37.252	- / 23.142	- / 386.377
P-3a	7 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS (UPGRADE)				- / 14.927	- / 41.884	- / 17.501	- / 17.830	- / 4.052	- / 193.618
P-3a	8 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL (TBD)				- / 11.387	- / 95.904	- / 59.932	- / 9.330	- / 0.000	- / 176.553
P-40	Total Gross/Weapon System Cost				- / 149.915	- / 225.596	- / 197.049	- / 261.229	Continuing	Continuing

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment		P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: 0604562N
Line Item MDAP/MAIS Code: N/A		
Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.		
<p>Justification: The FY 2019 funding request was reduced by \$0.768 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>FY19 procures SSN/SSBN/SSGN shipsets as part of the Submarine Warfare Federated Tactical System (SWFTS) initiative and will install shipsets procured in FY18. FY19 is the second year of procurements for Unmanned Aerial System Blackwing (BW) units. We will continue to procure tactical control hardware upgrades to SSN/SSBN/SSGN Class submarines for legacy combat control systems, Engineering Changes (EC) and Ordnance Alterations (ORDALT) to correct fleet reported problems with legacy Combat Control System software and hardware. Also will procure Weapons Launch System and Multi-tube Weapon System (MTWS).</p> <p>FY19 SSP funding (BSO 30) provides for the procurement, installation and sustainment of equipment required for the life-cycle operational support of SSGN Attack Weapons Systems (AWS) for the four OHIO-class SSGNs.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5									P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems							Aggregated Items Title: SSN Combat Control Systems					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
1) VB011: COMBAT SYSTEM TECH REFRESH/LEGACY INTEGRATION																					
1.1) VB011: ECP/ AUXILLARY EQUIPMENT / LEGACY INTEGRATION	A		-	-	5.590	-	-	2.155	-	-	2.159	-	-	2.164	-	-	-	-	-	2.164	
1.2) VB011: WEAPON LAUNCH SYSTEMS TECH INSERTION ⁽¹⁾	A		-	-	24.141	-	-	15.280	-	-	7.640	-	-	17.935	-	-	-	-	-	17.935	
1.3) VB011: TACLAN/ IA ⁽²⁾	A		-	-	118.481	-	-	17.764	-	-	12.735	-	-	12.990	-	-	-	-	-	12.990	
Subtotal: 1) VB011: COMBAT SYSTEM TECH REFRESH/LEGACY INTEGRATION			-	-	148.212	-	-	35.199	-	-	22.534	-	-	33.089	-	-	-	-	-	33.089	
2) VB800: ELECTRONIC CHARTING DISPLAY INFORMATION SYSTEM																					
2.1) VB800: ELECTRONIC CHARTING DISPLAY INFORMATION SYSTEM	A		-	-	3.053	-	-	3.095	-	-	3.269	-	-	3.334	-	-	-	-	-	3.334	
Subtotal: 2) VB800: ELECTRONIC CHARTING DISPLAY INFORMATION SYSTEM			-	-	3.053	-	-	3.095	-	-	3.269	-	-	3.334	-	-	-	-	-	3.334	
3) VB995: PRODUCTION ENGINEERING AND INITIAL TRAINING																					
3.1) VB995: PRODUCTION ENGINEERING AND INITIAL TRAINING	A		-	-	60.255	-	-	1.688	-	-	1.720	-	-	1.753	-	-	-	-	-	1.753	
Subtotal: 3) VB995: PRODUCTION ENGINEERING AND INITIAL TRAINING			-	-	60.255	-	-	1.688	-	-	1.720	-	-	1.753	-	-	-	-	-	1.753	
4) VB997: SSGN SUSTAINING SUPPORT																					
4.1) VB997: SSGN SUSTAINING SUPPORT ⁽³⁾	A		-	-	66.436	-	-	1.612	-	-	8.411	-	-	6.199	-	-	-	-	-	6.199	
Subtotal: 4) VB997: SSGN SUSTAINING SUPPORT			-	-	66.436	-	-	1.612	-	-	8.411	-	-	6.199	-	-	-	-	-	6.199	
5) VB700: PAYLOAD PROCUREMENT																					
5.1) VB700: PAYLOAD PROCUREMENT ^{(4)(†)}	A		-	-	-	-	-	-	874,000.00	1	0.874	891,480.00	3	2.674	-	-	-	891,480.00	3	2.674	
Subtotal: 5) VB700: PAYLOAD PROCUREMENT			-	-	0.000	-	-	-	-	-	0.874	-	-	2.674	-	-	-	-	-	2.674	
Total			-	-	277.956	-	-	41.594	-	-	36.808	-	-	47.049	-	-	-	-	-	47.049	
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																					

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5	P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems	Aggregated Items Title: SSN Combat Control Systems

(†) indicates the presence of a P-5a

Footnotes:

- (1) 1.2) This funding includes the sustainment of the Common Weapon Launcher (CWL) for Block III and obsolescence management for Weapon Launcher Console Integrated Enclosure (WLCIE) on Virginia Blocks I and II across the FYDP. Increased funding in FY19 supports WLCIE component replacements for components at End of Life.
- (2) 1.3) FY17 efforts include transition of TACLAN to Common Infrastructure Services (CIS) which consolidates common functions used by multiple subsystems. Also includes funding to field cybersecurity improvements to meet new, more stringent requirements. In FY19, Torpedo Tube Interface upgrades will commence to support MK48/APB6 and Contender.
- (3) FY19 funding support the TTWCS 5.6 update required to maintain compatibility with modernized TOMAHAWK missiles. The modernized TOMAHAWK supports emerging missions for which the SSGN is the prime platform for deployment. The TTWCS updates are critical to the ability to fire Tomahawk missiles from the SSGNs. The decrease from FY18 to FY19 was the reduction from 2 hulls to 1 hull in Increment 6 installation and refresh efforts to include testing, material certification and Tomahawk Equipment Cabinet (TEC) removal.
- (4) 7.1) Beginning in FY18 shipset procurements and associated integration, verification, and validation efforts. Each shipset consists of 12 Unmanned Aerial Vehicles (UAVs) and associated shipboard components.

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5			P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems					Aggregated Items: SSN Combat Control Systems				
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
5) VB700: PAYLOAD PROCUREMENT												
5.1) VB700: PAYLOAD PROCUREMENT ⁽⁴⁾		2018	NUWC Neport / Newport, RI	WR	** NO PCO **	Nov 2017	May 2018	1	874,000.00	N		
5.1) VB700: PAYLOAD PROCUREMENT ⁽⁴⁾		2019	NUWC Neport / Newport, RI	WR	** NO PCO **	Nov 2018	May 2019	3	891,480.00	N		

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Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems				Modification Number / Title: 1 / VB034 SSBN MODERNIZATION WITH AN/BYG-1			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	8.348	25.597	32.631	28.867	0.000	28.867	27.137	25.438	7.087	0.000	0.000	155.105
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	8.348	25.597	32.631	28.867	0.000	28.867	27.137	25.438	7.087	0.000	0.000	155.105
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	8.348	25.597	32.631	28.867	0.000	28.867	27.137	25.438	7.087	0.000	0.000	155.105
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

SSBN 726 Class Submarines will be modernized from the CCS MK2 BLOCK 1C system to the TI/APB model.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 1 / VB034 SSBN MODERNIZATION WITH AN/BYG-1			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: SSBN CLASS				Modification Type: UPGRADE				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: VB034 SSBN MODERNIZATION WITH AN/BYG-1													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	2 / 8.348	3 / 12.747	3 / 12.990	2 / 8.833	- / -	2 / 8.833	3 / 13.514	1 / 4.595	- / -	- / -	- / -	14 / 61.027	
<i>Subtotal: Recurring</i>	- / 8.348	- / 12.747	- / 12.990	- / 8.833	- / -	- / 8.833	- / 13.514	- / 4.595	- / -	- / -	- / 0.000	- / 61.027	
<i>Subtotal: VB034 SSBN MODERNIZATION WITH AN/ BYG-1</i>	2 / 8.348	3 / 12.747	3 / 12.990	2 / 8.833	- / -	2 / 8.833	3 / 13.514	1 / 4.595	- / -	- / -	- / -	14 / 61.027	
<i>Subtotal: Procurement, All Modification Items</i>	- / 8.348	- / 12.747	- / 12.990	- / 8.833	- / -	- / 8.833	- / 13.514	- / 4.595	- / -	- / -	- / 0.000	- / 61.027	
Installation													
Modification Item 1 of 1: VB034 SSBN MODERNIZATION WITH AN/BYG-1	- / 0.000	- / 12.850	- / 19.641	- / 20.034	- / 0.000	- / 20.034	- / 13.623	- / 20.843	- / 7.087	- / 0.000	- / 0.000	- / 94.078	
<i>Subtotal: Installation</i>	- / 0.000	- / 12.850	- / 19.641	- / 20.034	- / -	- / 20.034	- / 13.623	- / 20.843	- / 7.087	- / -	- / 0.000	- / 94.078	
Total													
Total Cost (Procurement + Support + Installation)	8.348	25.597	32.631	28.867	0.000	28.867	27.137	25.438	7.087	0.000	0.000	155.105	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 1 / VB034 SSBN MODERNIZATION WITH AN/BYG-1											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 SSBN MODERNIZATION WITH AN/BYG-1																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime <i>(in Months)</i> : 6															Production Leadtime <i>(in Months)</i> : 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Mar 2017				Mar 2018				Mar 2019				Mar 2020				Mar 2021													
Delivery Dates		Mar 2018				Mar 2019				Mar 2020				Mar 2021				Mar 2022													
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		- / -		2 / 12.850		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		2 / 12.850							
FY 2017		- / -		- / -		3 / 19.641		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		3 / 19.641							
FY 2018		- / -		- / -		- / -		3 / 20.034		0 / 0.000		3 / 20.034		- / -		- / -		- / -		- / -		0 / 0.000		3 / 20.034							
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		2 / 13.623		- / -		- / -		- / -		0 / 0.000		2 / 13.623							
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		3 / 20.843		- / -		- / -		0 / 0.000		3 / 20.843							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 7.087		- / -		0 / 0.000		1 / 7.087							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		- / -		2 / 12.850		3 / 19.641		3 / 20.034		0 / 0.000		3 / 20.034		2 / 13.623		3 / 20.843		1 / 7.087		- / -		0 / 0.000		14 / 94.078							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	1	1	-	-	1	1	1	-	1	1	1	-	1	1	-	-	1	1	1	-	1	-	-	-	-	-	-	-	-	14
Out	-	-	1	1	-	-	1	1	1	-	1	1	1	-	1	1	-	-	1	1	1	-	1	-	-	-	-	-	-	-	14

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Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems				Modification Number / Title: 2 / VB034 SSBN MODERNIZATION TECH INSERTION			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.504	23.765	10.188	47.457
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.504	23.765	10.188	47.457
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.504	23.765	10.188	47.457
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software. Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 2 / VB034 SSBN MODERNIZATION TECH INSERTION			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: SSBN CLASS				Modification Type: SSBN CLASS				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: VB034 SSBN MODERNIZATION TECH INSERTION													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 13.504	4 / 13.776	- / -	8 / 27.280	
<i>Subtotal: Recurring</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 13.504	- / 13.776	- / 0.000	- / 27.280	
<i>Subtotal: VB034 SSBN MODERNIZATION TECH INSERTION</i>	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	4 / 13.504	4 / 13.776	- / -	8 / 27.280	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 13.504	- / 13.776	- / 0.000	- / 27.280	
Installation													
Modification Item 1 of 1: VB034 SSBN MODERNIZATION TECH INSERTION	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 9.989	- / 10.188	- / 20.177	
<i>Subtotal: Installation</i>	- / 0.000	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 9.989	- / 10.188	- / 20.177	
Total													
Total Cost (Procurement + Support + Installation)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	13.504	23.765	10.188	47.457	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 2 / VB034 SSBN MODERNIZATION TECH INSERTION											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 SSBN MODERNIZATION TECH INSERTION																															
Manufacturer Information																															
Manufacturer Name: VARIOUS															Manufacturer Location: Various																
Administrative Leadtime <i>(in Months)</i> : 6															Production Leadtime <i>(in Months)</i> : 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates																						Mar 2022				Mar 2023					
Delivery Dates																						Mar 2023				Mar 2024					
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>		<i>Qty (Each) / Total Cost (\$ M)</i>								
Prior Years		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2017		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2018		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2019		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2020		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2021		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2022		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		4 / 9.989		0 / 0.000		4 / 9.989						
FY 2023		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		4 / 10.188		4 / 10.188						
To Complete		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
Total		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		4 / 9.989		4 / 10.188		8 / 20.177						
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	4	8
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	4	8

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 3 / VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	62.858	7.040	1.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	71.697
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	62.858	7.040	1.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	71.697
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	62.858	7.040	1.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	71.697
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: This program will provide upgrades for submarine combat systems with upgraded combat control and tactical control hardware and software. This program funds the procurement and installation of the first Virginia Class upgrade and, beginning in FY10, installation of the second and third upgrade kits as well as procurement and installation of all subsequent Virginia Class AN/BYG-1 upgrade kits. Milestone Decision Authority (MDA) Production Reviews are being held on an annual basis.												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 3 / VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS				Modification Type: UPGRADE				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	9 / 47.943	1 / 7.040	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 54.983	
Subtotal: Recurring	- / 47.943	- / 7.040	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 54.983	
Subtotal: VB034 TECHNOLOGY INSERTION (TI00/ TI02 BASELINE) SSN774 CLASS	9 / 47.943	1 / 7.040	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	10 / 54.983	
Subtotal: Procurement, All Modification Items	- / 47.943	- / 7.040	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 54.983	
Installation													
Modification Item 1 of 1: VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS	- / 14.915	- / 0.000	- / 1.799	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 16.714	
Subtotal: Installation	- / 14.915	- / -	- / 1.799	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / 0.000	- / 16.714	
Total													
Total Cost (Procurement + Support + Installation)	62.858	7.040	1.799	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	71.697	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 3 / VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 TECHNOLOGY INSERTION (TI00/TI02 BASELINE) SSN774 CLASS																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime <i>(in Months)</i> : 6															Production Leadtime <i>(in Months)</i> : 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Mar 2017																													
Delivery Dates		Mar 2018																													
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		9 / 14.915		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		9 / 14.915					
FY 2017		- / -		- / -		1 / 1.799		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		1 / 1.799					
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
Total		9 / 14.915		- / -		1 / 1.799		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		10 / 16.714					
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	9	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10
Out	9	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems				Modification Number / Title: 4 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:					
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Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	22.053	0.000	0.000	6.363	0.000	6.363	11.196	4.801	0.000	0.000	0.000	44.413
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	22.053	0.000	0.000	6.363	0.000	6.363	11.196	4.801	0.000	0.000	0.000	44.413
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	22.053	0.000	0.000	6.363	0.000	6.363	11.196	4.801	0.000	0.000	0.000	44.413
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software. Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5					P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems					Modification Number / Title: 4 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS					Modification Type: UPGRADE					Related RDT&E PEs: 0604562N			
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	4 / 10.912	- / -	- / -	2 / 6.363	- / -	2 / 6.363	2 / 6.490	- / -	- / -	- / -	- / -	8 / 23.765	
<i>Subtotal: Recurring</i>	<i>- / 10.912</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 6.363</i>	<i>- / -</i>	<i>- / 6.363</i>	<i>- / 6.490</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 23.765</i>	
<i>Subtotal: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS</i>	<i>4 / 10.912</i>	<i>- / -</i>	<i>- / -</i>	<i>2 / 6.363</i>	<i>- / -</i>	<i>2 / 6.363</i>	<i>2 / 6.490</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>8 / 23.765</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>- / 10.912</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 6.363</i>	<i>- / -</i>	<i>- / 6.363</i>	<i>- / 6.490</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 23.765</i>	
Installation													
<i>Modification Item 1 of 1:</i> VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS	- / 11.141	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 0.000	- / 4.706	- / 4.801	- / 0.000	- / 0.000	- / 0.000	- / 20.648	
<i>Subtotal: Installation</i>	<i>- / 11.141</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 4.706</i>	<i>- / 4.801</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 20.648</i>	
Total													
Total Cost (Procurement + Support + Installation)	22.053	0.000	0.000	6.363	0.000	6.363	11.196	4.801	0.000	0.000	0.000	44.413	

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 4 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSGN CLASS																															
Manufacturer Information																															
Manufacturer Name: Various														Manufacturer Location: Various																	
Administrative Leadtime (in Months): 6														Production Leadtime (in Months): 12																	
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates										Mar 2019				Mar 2020																	
Delivery Dates										Mar 2020				Mar 2021																	
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		4 / 11.141		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		4 / 11.141							
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		2 / 4.706		- / -		- / -		- / -		0 / 0.000		2 / 4.706							
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 4.801		- / -		- / -		0 / 0.000		2 / 4.801							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		4 / 11.141		- / -		- / -		- / -		- / -		- / -		2 / 4.706		2 / 4.801		- / -		- / -		0 / 0.000		8 / 20.648							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	4	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-	-	-	8
Out	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	1	1	-	-	-	-	-	-	-	-	-	8

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 5 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	16.274	7.424	7.565	4.517	0.000	4.517	0.000	0.000	3.396	8.353	4.987	52.516
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	16.274	7.424	7.565	4.517	0.000	4.517	0.000	0.000	3.396	8.353	4.987	52.516
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	16.274	7.424	7.565	4.517	0.000	4.517	0.000	0.000	3.396	8.353	4.987	52.516
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software. Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.												

UNCLASSIFIED

Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 5 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS				Modification Type: UPGRADE				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
<i>Modification Item 1 of 1:</i> VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	4 / 10.329	1 / 3.078	1 / 3.137	- / -	- / -	- / -	- / -	- / -	1 / 3.396	1 / 3.463	- / -	8 / 23.403	
<i>Subtotal: Recurring</i>	- / 10.329	- / 3.078	- / 3.137	- / -	- / -	- / -	- / -	- / -	- / 3.396	- / 3.463	- / 0.000	- / 23.403	
<i>Subtotal: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS</i>	4 / 10.329	1 / 3.078	1 / 3.137	- / -	- / -	- / -	- / -	- / -	1 / 3.396	1 / 3.463	- / -	8 / 23.403	
<i>Subtotal: Procurement, All Modification Items</i>	- / 10.329	- / 3.078	- / 3.137	- / -	- / -	- / -	- / -	- / -	- / 3.396	- / 3.463	- / 0.000	- / 23.403	
Installation													
<i>Modification Item 1 of 1:</i> VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS	- / 5.945	- / 4.346	- / 4.428	- / 4.517	- / 0.000	- / 4.517	- / 0.000	- / 0.000	- / 0.000	- / 4.890	- / 4.987	- / 29.113	
<i>Subtotal: Installation</i>	- / 5.945	- / 4.346	- / 4.428	- / 4.517	- / -	- / 4.517	- / -	- / -	- / -	- / 4.890	- / 4.987	- / 29.113	
Total													
Total Cost (Procurement + Support + Installation)	16.274	7.424	7.565	4.517	0.000	4.517	0.000	0.000	3.396	8.353	4.987	52.516	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 5 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN21 CLASS																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime <i>(in Months)</i> : 6															Production Leadtime <i>(in Months)</i> : 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Mar 2017				Mar 2018																Mar 2022									
Delivery Dates		Mar 2018				Mar 2019																Mar 2023									
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		3 / 5.945		1 / 4.346		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		4 / 10.291							
FY 2017		- / -		- / -		1 / 4.428		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		1 / 4.428							
FY 2018		- / -		- / -		- / -		1 / 4.517		0 / 0.000		1 / 4.517		- / -		- / -		- / -		- / -		0 / 0.000		1 / 4.517							
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 4.890		0 / 0.000							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 4.987							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		3 / 5.945		1 / 4.346		1 / 4.428		1 / 4.517		0 / 0.000		1 / 4.517		- / -		- / -		- / -		- / -		1 / 4.890		1 / 4.987							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	3	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1	8
Out	3	-	-	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	8

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 6 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	188.783	17.287	18.855	37.200	0.000	37.200	34.675	15.577	13.606	37.252	23.142	386.377
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	188.783	17.287	18.855	37.200	0.000	37.200	34.675	15.577	13.606	37.252	23.142	386.377
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	188.783	17.287	18.855	37.200	0.000	37.200	34.675	15.577	13.606	37.252	23.142	386.377
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software. Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 6 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS				Modification Type: UPGRADE				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	37 / 103.056	- / -	6 / 18.855	6 / 19.232	- / -	6 / 19.232	5 / 16.348	- / -	4 / 13.606	7 / 24.288	- / -	65 / 195.385	
<i>Subtotal: Recurring</i>	- / 103.056	- / -	- / 18.855	- / 19.232	- / -	- / 19.232	- / 16.348	- / -	- / 13.606	- / 24.288	- / 0.000	- / 195.385	
<i>Subtotal: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS</i>	37 / 103.056	- / -	6 / 18.855	6 / 19.232	- / -	6 / 19.232	5 / 16.348	- / -	4 / 13.606	7 / 24.288	- / -	65 / 195.385	
<i>Subtotal: Procurement, All Modification Items</i>	- / 103.056	- / -	- / 18.855	- / 19.232	- / -	- / 19.232	- / 16.348	- / -	- / 13.606	- / 24.288	- / 0.000	- / 195.385	
Installation													
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS	- / 85.727	- / 17.287	- / 0.000	- / 17.968	- / 0.000	- / 17.968	- / 18.327	- / 15.577	- / 0.000	- / 12.964	- / 23.142	- / 190.992	
<i>Subtotal: Installation</i>	- / 85.727	- / 17.287	- / -	- / 17.968	- / -	- / 17.968	- / 18.327	- / 15.577	- / -	- / 12.964	- / 23.142	- / 190.992	
Total													
Total Cost (Procurement + Support + Installation)	188.783	17.287	18.855	37.200	0.000	37.200	34.675	15.577	13.606	37.252	23.142	386.377	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 6 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN688 CLASS																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime (in Months): 6															Production Leadtime (in Months): 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates						Mar 2018				Mar 2019				Mar 2020								Mar 2022				Mar 2023					
Delivery Dates						Mar 2019				Mar 2020				Mar 2021								Mar 2023				Mar 2024					
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		31 / 85.727		6 / 17.287		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		37 / 103.014							
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2018		- / -		- / -		- / -		6 / 17.968		0 / 0.000		6 / 17.968		- / -		- / -		- / -		- / -		0 / 0.000		6 / 17.968							
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		6 / 18.327		- / -		- / -		- / -		0 / 0.000		6 / 18.327							
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		5 / 15.577		- / -		- / -		0 / 0.000		5 / 15.577							
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		4 / 12.964		0 / 0.000		4 / 12.964							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		7 / 23.142		7 / 23.142							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -							
Total		31 / 85.727		6 / 17.287		- / -		6 / 17.968		0 / 0.000		6 / 17.968		6 / 18.327		5 / 15.577		- / -		4 / 12.964		7 / 23.142		65 / 190.992							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	31	2	2	2	-	-	-	-	-	2	2	2	-	2	2	2	-	2	2	1	-	-	-	-	-	2	1	1	-	7	65
Out	31	-	2	2	2	-	-	-	-	-	2	2	2	-	2	2	2	-	2	2	1	-	-	-	-	-	2	1	1	7	65

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 7 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	13.832	45.773	32.314	5.505	0.000	5.505	14.927	41.884	17.501	17.830	4.052	193.618
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	13.832	45.773	32.314	5.505	0.000	5.505	14.927	41.884	17.501	17.830	4.052	193.618
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	13.832	45.773	32.314	5.505	0.000	5.505	14.927	41.884	17.501	17.830	4.052	193.618
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Description: This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software. Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems						Modification Number / Title: 7 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS				Modification Type: UPGRADE				Related RDT&E PEs: 0604562N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic ⁽⁵⁾	2 / 13.832	6 / 42.243	3 / 21.522	- / -	- / -	- / -	2 / 14.927	5 / 38.066	1 / 7.766	2 / 15.842	- / -	21 / 154.198	
Subtotal: Recurring	- / 13.832	- / 42.243	- / 21.522	- / -	- / -	- / -	- / 14.927	- / 38.066	- / 7.766	- / 15.842	- / 0.000	- / 154.198	
Subtotal: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS	2 / 13.832	6 / 42.243	3 / 21.522	- / -	- / -	- / -	2 / 14.927	5 / 38.066	1 / 7.766	2 / 15.842	- / -	21 / 154.198	
Subtotal: Procurement, All Modification Items	- / 13.832	- / 42.243	- / 21.522	- / -	- / -	- / -	- / 14.927	- / 38.066	- / 7.766	- / 15.842	- / 0.000	- / 154.198	
Installation													
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS	- / 0.000	- / 3.530	- / 10.792	- / 5.505	- / 0.000	- / 5.505	- / 0.000	- / 3.818	- / 9.735	- / 1.988	- / 4.052	- / 39.420	
Subtotal: Installation	- / 0.000	- / 3.530	- / 10.792	- / 5.505	- / -	- / 5.505	- / -	- / 3.818	- / 9.735	- / 1.988	- / 4.052	- / 39.420	
Total													
Total Cost (Procurement + Support + Installation)	13.832	45.773	32.314	5.505	0.000	5.505	14.927	41.884	17.501	17.830	4.052	193.618	

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Exhibit P-3a, Individual Modification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5	P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems	Modification Number / Title: 7 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS

ID Code (A=Service Ready, B=Not Service Ready) :	MDAP/MAIS Code:
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Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS

Manufacturer Information

Manufacturer Name: Various	Manufacturer Location: Various
Administrative Leadtime (in Months): 6	Production Leadtime (in Months): 12

Dates	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Contract Dates	Mar 2017	Mar 2018		Mar 2020	Mar 2021	Mar 2022	Mar 2023
Delivery Dates	Mar 2018	Mar 2019		Mar 2021	Mar 2022	Mar 2023	Mar 2024

Installation Information

Method of Implementation: AIT:: Installation Name: EQUIPMENT

Installation Cost	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)
Prior Years	- / -	2 / 3.530	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	2 / 3.530
FY 2017	- / -	- / -	6 / 10.792	- / -	- / -	- / -	- / -	- / -	- / -	- / -	0 / 0.000	6 / 10.792
FY 2018	- / -	- / -	- / -	3 / 5.505	0 / 0.000	3 / 5.505	- / -	- / -	- / -	- / -	0 / 0.000	3 / 5.505
FY 2019	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
FY 2020	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 3.818	- / -	- / -	0 / 0.000	2 / 3.818
FY 2021	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	5 / 9.735	- / -	0 / 0.000	5 / 9.735
FY 2022	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	1 / 1.988	0 / 0.000	1 / 1.988
FY 2023	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	2 / 4.052	2 / 4.052
To Complete	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -	- / -
Total	- / -	2 / 3.530	6 / 10.792	3 / 5.505	0 / 0.000	3 / 5.505	- / -	2 / 3.818	5 / 9.735	1 / 1.988	2 / 4.052	21 / 39.420

Installation Schedule

	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	1	1	-	2	2	2	-	1	1	1	-	-	-	-	-	1	1	-	-	2	2	1	-	-	1	-	-	2	21
Out	-	-	-	1	1	-	2	2	2	-	1	1	1	-	-	-	-	-	1	1	-	-	2	2	1	-	-	1	-	2	21

Footnotes:

⁽⁵⁾ Installation of 2 Kits procured in FY17 as part of the RAA will not complete installation until FY19 due to availability scheduling.

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Exhibit P-3a, Individual Modification: PB 2019 Navy						Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems				Modification Number / Title: 8 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/ CWL			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	11.387	95.904	59.932	9.330	0.000	176.553
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	11.387	95.904	59.932	9.330	0.000	176.553
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	0.000	0.000	0.000	0.000	0.000	11.387	95.904	59.932	9.330	0.000	176.553
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This program will provide submarine combat control systems with COTS-based upgrades to combat control and tactical control hardware and software and Common Weapon Launcher (CWL). Milestone Decision Authority (MDA) Production Reviews are held on an annual basis.

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems					Modification Number / Title: 8 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/ CWL				
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: [No Model Specified]				Modification Type: TBD				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL</i>													
B Kits													
Recurring													
1.1.1) EQUIPMENT - NonOrganic	- / -	- / -	- / -	- / -	- / -	- / -	1 / 11.387	8 / 92.915	3 / 35.540	- / -	- / -	12 / 139.842	
<i>Subtotal: Recurring</i>	<i>- / 0.000</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 11.387</i>	<i>- / 92.915</i>	<i>- / 35.540</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 139.842</i>	
<i>Subtotal: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>1 / 11.387</i>	<i>8 / 92.915</i>	<i>3 / 35.540</i>	<i>- / -</i>	<i>- / -</i>	<i>12 / 139.842</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>- / 0.000</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 11.387</i>	<i>- / 92.915</i>	<i>- / 35.540</i>	<i>- / -</i>	<i>- / 0.000</i>	<i>- / 139.842</i>	
Installation													
<i>Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 2.989</i>	<i>- / 24.392</i>	<i>- / 9.330</i>	<i>- / 0.000</i>	<i>- / 36.711</i>	
<i>Subtotal: Installation</i>	<i>- / 0.000</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / -</i>	<i>- / 2.989</i>	<i>- / 24.392</i>	<i>- / 9.330</i>	<i>- / 0.000</i>	<i>- / 36.711</i>	
Total													
Total Cost (Procurement + Support + Installation)	0.000	0.000	0.000	0.000	0.000	0.000	11.387	95.904	59.932	9.330	0.000	176.553	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5										P-1 Line Item Number / Title: 5420 / SSN Combat Control Systems										Modification Number / Title: 8 / VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/ CWL											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: VB034 UPGRADES FROM TI04 AND OUT BASELINE SSN774 CLASS W/CWL																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime (in Months): 6															Production Leadtime (in Months): 12																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates														Mar 2020				Mar 2021				Mar 2022									
Delivery Dates														Mar 2021				Mar 2022				Mar 2023									
Installation Information																															
Method of Implementation: AIT:: Installation Name: EQUIPMENT																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2017		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2018		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 2.989		- / -		- / -		0 / 0.000		1 / 2.989					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		8 / 24.392		- / -		0 / 0.000		8 / 24.392					
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		3 / 9.330		0 / 0.000		3 / 9.330					
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
Total		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		1 / 2.989		8 / 24.392		3 / 9.330		0 / 0.000		12 / 36.711					
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3	3	2	-	1	1	1	-	-	12
Out	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	3	3	2	1	1	1	-	-	12

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment						P-1 Line Item Number / Title: 5429 / ASW Support Equipment						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	37.748	36.431	23.209	19.436	0.000	19.436	24.114	24.000	23.236	23.751	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	37.748	36.431	23.209	19.436	0.000	19.436	24.114	24.000	23.236	23.751	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	37.748	36.431	23.209	19.436	0.000	19.436	24.114	24.000	23.236	23.751	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
The FY 2019 funding request was reduced by \$3.0 million to account for the availability of prior year execution balances.												
Cost Codes VC000/VC830/VC51N - SUB WEAPONS LAUNCHING / HANDLING SUPPORT EQUIPMENT: Funding for modifications and improvements to SSN 688, SSBN 726 and SSN21 classes Attack and Ballistic Missile Submarine weapons launching, stowage and shipping systems, torpedo tube system components and torpedo tube test equipment. These requirements arise as a result of the introduction of new or modified weapons, devices, and sensors and their subsequent evaluation test and operational use. Also procured are reliability, maintainability, functional and safety modifications and tactical improvements resulting from operational use experience. This funding also provides management services required for installations.												
Cost Codes VC008/VC009/VC900/VC61N - SURFACE ASW SUPPORT EQUIPMENT: Funding to procure Reliability, Maintainability and Availability (RM&A) and safety modifications through the Ordnance Alteration (ORDALT) process to Anti-Submarine Warfare (ASW) Fire Control, Surface Vessel Torpedo Tubes (SVTT), and related ASW Fire Control/SVTT support and test equipment to maintain the current performance envelope. Modification requirements arise as a result of evaluation, testing, and Fleet use of existing, new, or modified ASW weapons and/or related systems and subsystems. Included in this line item are all related procurements for training and simulation equipment required for the continued operation of this equipment. ORDALT procurements are highly variable and dependent on shipboard configurations and equipment age.												
SURFACE ASW SUPPORT EQUIPMENT - OVERALL YEAR-TO-YEAR BUDGET CONTROL COMPARISON:												
- FY18 budget (\$3.680M) is \$0.172M more than FY17 (\$3.508M) due to the ramping up/restoral of ASWCS and SVTT MK32 ORDALTs to required procurement levels in FY18.												
- FY19 budget (\$3.718M) is \$0.038M more than FY18 (\$3.680M) reflecting inflation associated with the OP,N appropriation.												
Cost Codes VC001/VC002/VC007/VC831/VC832/VC851/VC970 - ASW RANGE SUPPORT EQUIPMENT: ASW range support equipment includes self-propelled surface targets, towed surface targets, and associated target augmentation to mimic threats and/or provide feedback. Self-propelled surface targets include the High Speed Maneuverable Surface Target (HSMST), Fast Attack Craft Target (FACT), and Ship Deployable Surface Target (SDST). Towed surface targets include the Low Cost Modular Target (LCMT) and Polyethylene Tow Target (PETT). Funding is also for the procurement of underwater tracking and shore equipment, Test and Evaluation (T&E), acoustic trial range equipment, and weapon system and test equipment. Equipment procured includes instrumentation for US Fleet Operational Readiness Accuracy Check Sites (FORACS) Program, equipment required to conduct fleet exercises at fixed and portable ranges for the Underwater Tracking Range Equipment (UTRE)/Pinger Program, and equipment for the Surface Ship Radiated Noise Measurement (SSRNM) Program. Training and T&E ranges include; Southern California Offshore Range (SCORE), Barking Sands Tactical Underwater Range/Barking Sands												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment		P-1 Line Item Number / Title: 5429 / ASW Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
Underwater Range Extension (BARSTUR/BSURE), Atlantic Underwater Test and Evaluation Center (AUTEC), Pacific Northwest Range Complex (Dabob and Nanoose). UTRE ranges include Portable Offshore Training Range (POTR) and Portable Undersea Training Range (PUTR). FORACS ranges include; Andros Island and Southern California.		
<p>[P40A / VC000 - SUB WEAPONS LAUNCH/HANDLING SUPPORT]: VC000 - SUB WEAPONS LAUNCH/HANDLING SUPPORT The Submarine Torpedo Tube Support category funds in-service support and alteration procurements for all submarine torpedo tubes (TT), torpedo ejection pumps (TEP), internal countermeasure launchers (ICL), and weapons stowage and handling systems (WSHS). Development efforts under this item number include Engineering Change Proposals, ORDALTs, Type Zero (TZ) kits and Test Equipment and alteration material procurement to correct significant deficiencies in equipment affecting personnel safety, ship safety and system performance.</p> <p>[P40A / VC830 - PRODUCTION ENGINEERING]: VC830 - PRODUCTION ENGINEERING Production engineering includes resolving Liaison Action Requests (LARs) configure/test assembly in lab prior to ship installation and in-shop engineering support of vendor testing.</p> <p>[P40A / VC5IN O/A INSTALLATION]: VC5IN O/A 18000 INSTALL Installing agents will be various Naval Shipyards and contractors. Contracted installations require funding for management of installations during the availabilities. All installations will be on SSBN and SSN688/21 Class Submarines.</p> <p>[P40A - 2 / VC008 - ASWCS FIRE CONTROL ORDALTs]: SURFACE ASW SUPPORT EQUIPMENT VC008 Cost Elements/Descriptions as follows:</p> <p>ASWCS - UFCS/Control Panel ORDALTs: Provides funding for ORDALT kits for the ASW Underwater Fire Control System (UFCS) and Control Panel (MK309), ASW Control System (ASWCS) MK116 Mod 7, Torpedo Setting Panel (MK331), and the Torpedo Pre-Setter Test Set (MK432). ORDALT procurements include a MK432 Mod 6 test set which provides for the addition of wide angle display, cable terminations and tech refresh of obsolete motherboard parts. Also provides material support at multiple land-based laboratories as well as material support for upgrades and calibrations. Procurements will ensure laboratories are at Fleet baseline configurations.</p> <p>ASWCS - Production Engineering Support: Provides the necessary production engineering support funds to cover the associated Integrated Logistics Support (ILS) elements, Engineering Change Proposal (ECP) reviews, Engineering Changes (EC), Ship Change Documents (SCDs), and engineering audits for ASW Fire Control. Reviews and approves internal and external system interfaces (hardware and integration related) and identify interface issues.</p> <p>ASWCS - Acceptance Test & Evaluation: Provides the in-house acceptance test and evaluation funding associated with the safety and quality assurance testing of all ASW Fire Control, Alteration Equivalent to Repairs (AERs), ECPs, ECs, and SCDs.</p> <p>[P40A - 2 / VC009 - TORPEDO TUBE ORDALTs]: SURFACE ASW SUPPORT EQUIPMENT VC009 Cost Elements/Descriptions as follows:</p> <p>SVTT - MK32 ORDALTs: The SVTT MK32 is an over-the-side torpedo defense surface ship launched system that conducts close-in ASW operations. This line provides funding for SVTT MK32 launchers, Torpedo Loading Trays (TLTs), and ancillary equipment for testing, training, and maintainability on select surface ship combatants. ORDALT procurements include: Emergency Fire Circuit and Mount to Magazine Door Interoperability Circuit Improvements (SVTT MK32 Mod 19 only - ORDALT 76463); Overheat Sensor Test Set (SVTT MK32 Mod 15 Only - ORDALT 412-01-019); Torpedo MK54 SVTT Upgrades (SVTT MK32 Mods 14 Only - ORDALT 76008); Breech Mechanism Control Valve Redesign (SVTT MK32 All Mods - ORDALT TBD); Over-Heat Sensor Assembly Modification (SVTT MK32 Mod 15 Only - ORDALT 412-05-015); Training Gear Handcrank Support Improvements (SVTT MK32 Mods 15 Only - ORDALT TBD) and Air Charging Panel Regulator Improvements (SVTT MK32 MOD 15 Only - ORDALT TBD). Procure SVTT shoresite laboratory equipment for Launcher System Facilities (LSF). LSFs are used to simulate shipboard conditions for over-the-side torpedo launchers, as well as for the creation of the required ORDALTs.</p> <p>SVTT - Production Engineering: Provides the necessary production engineering support funds to cover the associated Integrated Logistics Support (ILS) elements, Engineering Change Proposal (ECP) reviews, Engineering Changes (EC), SCDs, and engineering audits for SVTT ORDALTs.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment		P-1 Line Item Number / Title: 5429 / ASW Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
SVTT - Acceptance Test & Evaluation: Provides the in-house acceptance test and evaluation funding required for the safety and quality assurance testing of all SVTT ORDALTs, Alteration Equivalent to Repairs (AERs), ECPs, ECs, and SCDs.		
[P40A - 2 / VC900 - CONSULTING SERVICES]: SURFACE ASW SUPPORT EQUIPMENT VC900 Cost Element/Description as Follows:		
Provides the necessary funding for consulting services required to support scheduling of ASW Fire Control and SVTT ORDALT production, test, and installation efforts in conjunction with operation, safety, and environmental requirements.		
[P40A - 2 / VC6IN - INSTALLATION OF EQUIPMENT - N96]: SURFACE ASW SUPPORT EQUIPMENT VC6IN Cost Element/Description as follows:		
Funds the installation of all ASW Fire Control (under Cost Code VC008) and SVTT (under Cost Code VC009) ORDALTs/SCDs. ORDALT/SCD Alteration Installation Team (AIT) pier-side installations are variable and contingent on Type Commander (TYCOM), Ships' Scheduling Conference (SSC), and ships' availability.		
[P40A - 3 / ASW Range Support Equipment (3)]: ANTI-SUBMARINE WARFARE (ASW) RANGE EQUIPMENT:		
Funding for self-propelled surface targets, towed surface targets, and associated target augmentation to mimic threats and/or provide feedback. Self-propelled surface targets include the High Speed Maneuverable Surface Target (HSMST), Fast Attack Craft Target (FACT), and Ship Deployable Surface Target (SDST). Towed surface targets include the Low Cost Modular Target (LCMT) and Polyethylene Tow Target (PETT). (Targets)		
Funding also provides Surface Ship Radiated Noise Measurement (SSRNM) & US Fleet Operational Readiness Accuracy Check Sites (FORACS) test and evaluation capability for surface ships and submarines; Underwater Tracking Range Equipment (UTRE)/Pinger Program provides tracking equipment for systems, platforms, torpedoes and targets on all Navy Underwater Tracking Ranges, including portable tracking systems supporting test and training events. (S05)		
[P40A - 3 / VC001 - Surface Ship Radiated Noise Measurement (SSRNM)/US Fleet Operational Readiness Accuracy Check Sites (FORACS) - N96]: Funding provides for the procurement of range communication systems, ship auto-tracking system, Surface Ship Acoustic Range Equipment, and upgraded ship position tracking system for the Surface Ship Radiated Noise Measurement (SSRNM) and US Fleet Operational Readiness Accuracy Check Sites (FORACS) programs. Funding also provides for improvements, modernizations, and upgrades to systems and equipment. (S05)		
[P40A - 3 / VC002 - UNDERWATER TRACKING RANGE EQUIPMENT (UTRE)/Pinger - N98]: Funding provides for the Underwater Tracking Range Equipment (UTRE)/Pinger program for the procurement of underwater tracking equipment for fixed and portable tracking systems, both CONUS and OCONUS, shop special Pinger purpose test equipment, and the associated ancillary hardware required to track ships and submarines during Fleet training exercises. Funding provides tracking equipment for systems, platforms, torpedoes and targets on all Navy Underwater Tracking Ranges, including portable tracking systems supporting test and training events for Forward Deployed Naval Forces (FDNF). Funding also provides for improvements, modernizations, and upgrades to systems and equipment. Funding plus-up starting in FY14 is for an obsolescence driven upgrade to the submarine Underwater Tracking System (UTS). Funding will provide for procurement of underwater tracking equipment for submarines including 65 UTS shipboard units, TEMPALT modifications and training. (S05)		
[P40A - 3 / VC003 - TOWED TARGETS]: The Fleet requires low cost expendable towed targets for weapon system T&E and Fleet training. The Low Cost Modular Target (LCMT) and the Polyethylene Tow Target (PETT) are the primary towed targets used to meet these requirements.		
[P40A - 3 / VC004 - INSTRUMENTATION]: Seaborne target augmentation systems include transponders (i.e. transmitters/receivers), radar reflectors, radio frequency (RF) emitters and ground support equipment (GSE). Various electronic components provide the interface for the target control systems with the control stations/facilities for drone operations. RF emitters and radar reflectors enhance target threat replication and provide the required stimulus for anti-surface/radar weapons systems.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment		P-1 Line Item Number / Title: 5429 / ASW Support Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P40A - 3 / VC005 - HSMST (HIGH SPEED MANEUVERABLE SURFACE TARGET)]: Provides the user with a medium to high speed remote controlled surface target with a high degree of maneuverability. It has a form fitted collar surrounding the deck area of the aluminum hull. This target can exceed 45 knots in a calm sea and approaches 40 knots in a sea state 3.</p> <p>[P40A - 3 / VC006 - SDST (Ship Deployable Surface Target)]: SDST (Ship Deployable Surface Target) is used to support Fleet training and T&E exercises. This target supports training requirements of deploying ships and aircraft and surface gunnery requirements.</p> <p>[P40A - 3 / VC007 - FACT (Fast Attack Craft Target)]: FACT (Fast Attack Craft Target) is required to meet T&E requirements for weapon systems tests and Fleet training. The exercises require a target to represent missile capable patrol craft operating at speeds of 50 knots in sea state 2 conditions.</p> <p>[P40A - 3 / VC831/2 - PRODUCTION ENGINEERING]: _ Funding provides for Production Engineering performed by a field activity or contractor during the production phase of these projects. (S05)& (Ships)</p> <p>[P40A - 3 / VC851 - PRODUCT IMPROVEMENT]: _ Funding provides for Product Improvement performed by a field activity or contractor during the production phase of these projects. (S05)</p> <p>[P40A - 3 / VC970 - INTEGRATED LOGISTICS SUPPORT]: Funding provides for logistics spares and repair parts.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 5: ASW Support Equipment						P-1 Line Item Number / Title: 5429 / ASW Support Equipment				
ID Code (A=Service Ready, B=Not Service Ready): A				Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	SUB WEAPONS LAUNCHING/HANDLING SUPPORT EQUIPMENT				- / 7.361	- / 3.755	- / 3.930	- / 2.862	- / -	- / 2.862
P-40a	SURFACE ASW SUPPORT EQUIPMENT				- / 7.392	- / 3.508	- / 3.680	- / 3.718	- / -	- / 3.718
P-40a	ASW Range Support Equipment (3)	P-5a			- / 22.995	- / 29.168	- / 15.599	- / 12.856	- / -	- / 12.856
P-40	Total Gross/Weapon System Cost				- / 37.748	- / 36.431	- / 23.209	- / 19.436	- / 0.000	- / 19.436
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification: SURFACE ASW SUPPORT EQUIPMENT - Cost Codes VC008/VC009/VC900/VC6IN: Funding to procure Reliability, Maintainability and Availability (RM&A) and safety modifications through the Ordnance Alteration (ORDALT) process to Anti-Submarine Warfare (ASW) Fire Control, Surface Vessel Torpedo Tubes (SVTT), and related ASW Fire Control/SVTT support and test equipment to maintain the current performance envelope. Modification requirements arise as a result of evaluation, testing, and Fleet use of existing, new, or modified ASW weapons and/or related systems and subsystems. Included in this line item are all related procurements for training and simulation equipment required for the continued operation of this equipment. ORDALT procurements are highly variable and dependent on shipboard configurations and equipment age.</p>										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5								P-1 Line Item Number / Title: 5429 / ASW Support Equipment								Aggregated Items Title: SUB WEAPONS LAUNCHING/ HANDLING SUPPORT EQUIPMENT ⁽¹⁾				
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) VC000 - SUB WEAPONS LAUNCH/HANDLING SUPPORT																				
1.1) 2J COG MATERIAL	A		-	-	0.300	-	-	0.114	-	-	0.081	-	-	0.101	-	-	-	-	-	0.101
1.2) TT/TEP/ICL/ WSHS	A		-	-	2.222	-	-	1.000	-	-	0.910	-	-	1.071	-	-	-	-	-	1.071
Subtotal: 1) VC000 - SUB WEAPONS LAUNCH/HANDLING SUPPORT			-	-	2.522	-	-	1.114	-	-	0.991	-	-	1.172	-	-	-	-	-	1.172
2) VC000 ORDALT PROCUREMENT																				
2.1) O/A MATERIAL	A		50,000.00	10	0.500	50,000.00	6	0.300	50,000.00	6	0.300	50,000.00	3	0.150	-	-	-	50,000.00	3	0.150
Subtotal: 2) VC000 ORDALT PROCUREMENT			-	-	0.500	-	-	0.300	-	-	0.300	-	-	0.150	-	-	-	-	-	0.150
3) VC000 - TEST EQUIPMENT																				
3.1) BORE GAGE	A		-	-	0.122	-	-	0.009	-	-	-	-	-	-	-	-	-	-	-	-
3.2) MISC. TEST EQUIPMENT	A		-	-	0.150	-	-	0.075	-	-	0.090	-	-	0.132	-	-	-	-	-	0.132
3.3) TEST FACILITY EQUIPMENT	A		-	-	0.191	-	-	0.118	-	-	0.079	-	-	0.125	-	-	-	-	-	0.125
Subtotal: 3) VC000 - TEST EQUIPMENT			-	-	0.463	-	-	0.202	-	-	0.169	-	-	0.257	-	-	-	-	-	0.257
4) VC830 - PRODUCTION ENGINEERING																				
4.1) PRODUCTION ENGINEERING	A		-	-	0.450	-	-	0.160	-	-	0.250	-	-	0.150	-	-	-	-	-	0.150
Subtotal: 4) VC830 - PRODUCTION ENGINEERING			-	-	0.450	-	-	0.160	-	-	0.250	-	-	0.150	-	-	-	-	-	0.150
5) VC5IN - ORDALT INSTALLATION																				
5.1) VC5IN O/A INSTALLATION	A		-	-	3.426	-	-	1.979	-	-	2.220	-	-	1.133	-	-	-	-	-	1.133
Subtotal: 5) VC5IN - ORDALT INSTALLATION			-	-	3.426	-	-	1.979	-	-	2.220	-	-	1.133	-	-	-	-	-	1.133
Total			-	-	7.361	-	-	3.755	-	-	3.930	-	-	2.862	-	-	-	-	-	2.862
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
Footnotes:																				
⁽¹⁾ This line item procures modifications and improvements to Attack and Ballistic Missile Submarine fire control interface systems, torpedo tube system components and torpedo tube test equipment. These requirements arise as a result of the introduction of new or modified weapons and sensors and their subsequent evaluation test and operational use. Also procured are reliability, maintainability, functional and safety modifications and tactical improvements resulting from operational use experience.																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5									P-1 Line Item Number / Title: 5429 / ASW Support Equipment							Aggregated Items Title: SURFACE ASW SUPPORT EQUIPMENT					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
1) VC008 - ASWCS FIRE CONTROL ORDALTS																					
1.1) ASWCS - UCFS/CONTROL PANEL ORDALTS ⁽²⁾			-	-	3.395	-	-	1.581	-	-	1.672	-	-	1.698	-	-	-	-	-	1.698	
1.2) ASWCS - PRODUCTION ENGINEERING SUPPORT ⁽³⁾			-	-	0.170	-	-	0.089	-	-	0.091	-	-	0.093	-	-	-	-	-	0.093	
1.3) ASWCS - ACCEPTANCE TEST & EVALUATION ⁽⁴⁾			-	-	0.100	-	-	0.050	-	-	0.051	-	-	0.052	-	-	-	-	-	0.052	
Subtotal: 1) VC008 - ASWCS FIRE CONTROL ORDALTS			-	-	3.665	-	-	1.720	-	-	1.814	-	-	1.843	-	-	-	-	-	1.843	
2) VC009 - TORPEDO TUBE ORDALTS																					
2.1) SVTT - MK32 ORDALTS ⁽⁵⁾			-	-	2.843	-	-	1.334	-	-	1.413	-	-	1.427	-	-	-	-	-	1.427	
2.2) SVTT - PRODUCTION ENGINEERING SUPPORT ⁽⁶⁾			-	-	0.166	-	-	0.089	-	-	0.091	-	-	0.093	-	-	-	-	-	0.093	
2.3) SVTT - ACCEPTANCE TEST & EVALUATION ⁽⁷⁾			-	-	0.100	-	-	0.050	-	-	0.051	-	-	0.052	-	-	-	-	-	0.052	
Subtotal: 2) VC009 - TORPEDO TUBE ORDALTS			-	-	3.109	-	-	1.473	-	-	1.555	-	-	1.572	-	-	-	-	-	1.572	
3) VC900 - CONSULTING SERVICES																					
3.1) CONSULTING SERVICES ⁽⁸⁾			-	-	0.195	-	-	0.101	-	-	0.103	-	-	0.090	-	-	-	-	-	0.090	
Subtotal: 3) VC900 - CONSULTING SERVICES			-	-	0.195	-	-	0.101	-	-	0.103	-	-	0.090	-	-	-	-	-	0.090	
4) VC6IN - INSTALLATION OF EQUIPMENT - N96																					
4.1) ASWCS - FIRE CONTROL ORDALTS ⁽⁹⁾			-	-	0.218	-	-	0.110	-	-	0.105	-	-	0.107	-	-	-	-	-	0.107	
4.2) SVTT - TORPEDO TUBE ORDALTS ⁽¹⁰⁾			-	-	0.205	-	-	0.104	-	-	0.103	-	-	0.106	-	-	-	-	-	0.106	
Subtotal: 4) VC6IN - INSTALLATION OF EQUIPMENT - N96			-	-	0.423	-	-	0.214	-	-	0.208	-	-	0.213	-	-	-	-	-	0.213	
Total			-	-	7.392	-	-	3.508	-	-	3.680	-	-	3.718	-	-	-	-	-	3.718	
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																					

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5	P-1 Line Item Number / Title: 5429 / ASW Support Equipment	Aggregated Items Title: SURFACE ASW SUPPORT EQUIPMENT

Footnotes:

- (2) SURFACE ASW SUPPORT EQUIPMENT - 1.1 ASWCS - UCFS/CONTROL PANEL ORDALTS: Provides funding for ORDALT kits for the ASW Underwater Fire Control System (UFCS) and Control Panel (MK309), ASW Control System (ASWCS) MK116 Mod 7, Torpedo Setting Panel (MK331), and the Torpedo Pre-Setter Test Set (MK432). ORDALT procurements include a MK432 Mod 6 test set which provides for the addition of wide angle display, cable terminations and tech refresh of obsolete motherboard parts. Also provides material support at multiple land-based laboratories as well as material support for upgrades and calibrations. Procurements will ensure laboratories are at Fleet baseline configurations.
- (3) SURFACE ASW SUPPORT EQUIPMENT - 1.2 ASWCS - PRODUCTION ENGINEERING SUPPORT: Provides the necessary production engineering support funds to cover the associated Integrated Logistics Support (ILS) elements, Engineering Change Proposal (ECP) reviews, Engineering Changes (EC), Ship Change Documents (SCDs), and engineering audits for ASW Fire Control. Reviews and approves internal and external system interfaces (hardware and integration related) and identify interface issues.
- (4) SURFACE ASW SUPPORT EQUIPMENT - 1.3 ASWCS - ACCEPTANCE TEST & EVALUATION: Provides the in-house acceptance test and evaluation funding associated with the safety and quality assurance testing of all ASW Fire Control, Alteration Equivalent to Repairs (AERs), ECPs, ECs, and SCDs.
- (5) SURFACE ASW SUPPORT EQUIPMENT - 2.1 SVTT - MK32 ORDALTS: The SVTT MK32 is an over-the-side torpedo defense surface ship launched system that conducts close-in ASW operations. This line provides funding for SVTT MK32 launchers, Torpedo Loading Trays (TLTs), and ancillary equipment for testing, training, and maintainability on select surface ship combatants. ORDALT procurements include: Emergency Fire Circuit and Mount to Magazine Door Interoperability Circuit Improvements (SVTT MK32 Mod 19 only - ORDALT 76463); Overheat Sensor Test Set (SVTT MK32 Mod 15 Only - ORDALT 412-01-019); Torpedo MK54 SVTT Upgrades (SVTT MK32 Mods 14 Only - ORDALT 76008); Breech Mechanism Control Valve Redesign (SVTT MK32 All Mods - ORDALT TBD); Over-Heat Sensor Assembly Modification (SVTT MK32 Mod 15 Only - ORDALT 412-05-015); Training Gear Handcrank Support Improvements (SVTT MK32 Mods 15 Only - ORDALT TBD) and Air Charging Panel Regulator Improvements (SVTT MK32 MOD 15 Only - ORDALT TBD). Procure SVTT shore site laboratory equipment for Launcher System Facilities (LSF). LSFs are used to simulate shipboard conditions for over-the-side torpedo launchers, as well as for the creation of the required ORDALTS.
- (6) SURFACE ASW SUPPORT EQUIPMENT - 2.2 SVTT - PRODUCTION ENGINEERING: Provides the necessary production engineering support funds to cover the associated Integrated Logistics Support (ILS) elements, Engineering Change Proposal (ECP) reviews, Engineering Changes (EC), SCDs, and engineering audits for SVTT ORDALTS.
- (7) SURFACE ASW SUPPORT EQUIPMENT - 2.3 SVTT - ACCEPTANCE TEST & EVALUATION: Provides the in-house acceptance test and evaluation funding required for the safety and quality assurance testing of all SVTT ORDALTS, Alteration Equivalent to Repairs (AERs), ECPs, ECs, and SCDs.
- (8) SURFACE ASW SUPPORT EQUIPMENT - 3.1 CONSULTING SERVICES: Provides the necessary funding for consulting services required to support scheduling of ASW Fire Control and SVTT ORDALT production, test, and installation efforts in conjunction with operation, safety, and environmental requirements.
- (9) SURFACE ASW SUPPORT EQUIPMENT - 4.1 ASWCS - FIRE CONTROL ORDALTS: Funds the installation of all ASW Fire Control (under Cost Code VC008) and SVTT (under Cost Code VC009) ORDALTS/SCDs. ORDALT/SCD Alteration Installation Team (AIT) pier-side installations are variable and contingent on Type Commander (TYCOM), Ships' Scheduling Conference (SSC), and ships' availability.
- (10) SURFACE ASW SUPPORT EQUIPMENT - 4.2 SVTT - TORPEDO TUBE ORDALTS: Funds the installation of all ASW Fire Control (under Cost Code VC008) and SVTT (under Cost Code VC009) ORDALTS/SCDs. ORDALT/SCD Alteration Installation Team (AIT) pier-side installations are variable and contingent on Type Commander (TYCOM), Ships' Scheduling Conference (SSC), and ships' availability.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5								P-1 Line Item Number / Title: 5429 / ASW Support Equipment							Aggregated Items Title: ASW Range Support Equipment (3)					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) VC001 - Surface Ship Radiated Noise Measurement (SSRNM)/US Fleet Operational Readiness Acc																				
1.1) VC001 - SSRNM/US FORACS (S05)		A	-	-	4.092	-	-	3.292	-	-	2.534	-	-	2.568	-	-	-	-	-	2.568
Subtotal: 1) VC001 - Surface Ship Radiated Noise Measurement (SSRNM)/US Fleet Operational Readiness Acc			-	-	4.092	-	-	3.292	-	-	2.534	-	-	2.568	-	-	-	-	-	2.568
2) VC002 - UNDERWATER TRACKING RANGE EQUIPMENT (UTRE)/Pinger - N98																				
2.1) VC002 - UTRE (S05)		A	-	-	3.487	-	-	2.757	-	-	1.732	-	-	1.773	-	-	-	-	-	1.773
Subtotal: 2) VC002 - UNDERWATER TRACKING RANGE EQUIPMENT (UTRE)/Pinger - N98			-	-	3.487	-	-	2.757	-	-	1.732	-	-	1.773	-	-	-	-	-	1.773
3) VC003 - TOWED TARGETS																				
3.1) VC003 - TOWED TARGETS (SHIPS)		A	-	-	1.477	-	-	1.248	-	-	1.016	-	-	0.833	-	-	-	-	-	0.833
Subtotal: 3) VC003 - TOWED TARGETS			-	-	1.477	-	-	1.248	-	-	1.016	-	-	0.833	-	-	-	-	-	0.833
4) VC004 - INSTRUMENTATION																				
4.1) VC004 - INSTRUMENTATION (SHIPS)		A	-	-	0.243	-	-	0.200	-	-	0.176	-	-	0.170	-	-	-	-	-	0.170
Subtotal: 4) VC004 - INSTRUMENTATION			-	-	0.243	-	-	0.200	-	-	0.176	-	-	0.170	-	-	-	-	-	0.170
5) VC005 - HSMST (HIGH SPEED MANEUVERABLE SURFACE TARGET) ⁽¹¹⁾																				
5.1) VC005 - HSMST (SHIPS) ^{(12)(t)}		A	189,898.31	59	11.204	185,558.00	104	19.298	197,576.00	40	7.903	201,528.00	30	6.046	-	-	-	201,528.00	30	6.046
Subtotal: 5) VC005 - HSMST (HIGH SPEED MANEUVERABLE SURFACE TARGET)			-	-	11.204	-	-	19.298	-	-	7.903	-	-	6.046	-	-	-	-	-	6.046
6) VC006 - SDST (Ship Deployable Surface Target)																				
6.1) VC006 - SDST (Ship Deployable Surface Target) (SHIPS)		A	-	-	0.160	-	-	0.123	-	-	0.124	-	-	0.126	-	-	-	-	-	0.126
Subtotal: 6) VC006 - SDST (Ship Deployable Surface Target)			-	-	0.160	-	-	0.123	-	-	0.124	-	-	0.126	-	-	-	-	-	0.126
7) VC007 - FACT (Fast Attack Craft Target)																				
7.1) VC007 - FACT (Fast Attack Craft Target) (SHIPS) ^(t)		A	657,000.00	1	0.657	670,037.00	1	0.670	683,437.00	1	0.683	-	-	-	-	-	-	-	-	-
Subtotal: 7) VC007 - FACT (Fast Attack Craft Target)			-	-	0.657	-	-	0.670	-	-	0.683	-	-	-	-	-	-	-	-	-
8) VC831/2 - PRODUCTION ENGINEERING																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5								P-1 Line Item Number / Title: 5429 / ASW Support Equipment							Aggregated Items Title: ASW Range Support Equipment (3)					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
8.1) VC831 - PRODUCTION ENGINEERING UTRE-N98/US FORACS - N96 (S05)	A		-	-	0.411	-	-	0.400	-	-	0.381	-	-	0.381	-	-	-	-	-	0.381
8.2) VC832 - PRODUCTION ENGINEERING (Ships)	A		-	-	0.650	-	-	0.600	-	-	0.519	-	-	0.460	-	-	-	-	-	0.460
Subtotal: 8) VC831/2 - PRODUCTION ENGINEERING			-	-	1.061	-	-	1.000	-	-	0.900	-	-	0.841	-	-	-	-	-	0.841
9) VC851 - PRODUCT IMPROVEMENT																				
9.1) VC851 - PRODUCT IMPROVEMENT UTRE-N98/US FORACS-N96 (S05)	A		-	-	0.412	-	-	0.400	-	-	0.381	-	-	0.381	-	-	-	-	-	0.381
Subtotal: 9) VC851 - PRODUCT IMPROVEMENT			-	-	0.412	-	-	0.400	-	-	0.381	-	-	0.381	-	-	-	-	-	0.381
10) VC970 - INTEGRATED LOGISTICS SUPPORT																				
10.1) VC970 - INTEGRATED LOGISTICS SUPPORT (SHIPS)	A		-	-	0.202	-	-	0.180	-	-	0.150	-	-	0.118	-	-	-	-	-	0.118
Subtotal: 10) VC970 - INTEGRATED LOGISTICS SUPPORT			-	-	0.202	-	-	0.180	-	-	0.150	-	-	0.118	-	-	-	-	-	0.118
Total			-	-	22.995	-	-	29.168	-	-	15.599	-	-	12.856	-	-	-	-	-	12.856
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
(†) indicates the presence of a P-5a																				
Footnotes:																				
(11) PB17 Amended Footnote: Amended request provided \$10.000M of additional funds to support approved increases for 56 additional High Speed Maneuverable Surface Targets (HSMST).																				
(12) HSMSTs must be procured annually to (1) replace targets destroyed during testing/exercises, (2) replace targets which are beyond their service life and (3) provide a sufficient inventory of targets at the operating activities (Target Ranges). The Navy conducts approximately 3,000 seaborne target exercises each year. 1,500 seaborne target operations each year involve the HSMST of which approximately 50 actually are destroyed. HSMSTs can be re-used if the target is not impacted or if the extent of the damage is minimal enough to allow the HSMST to be repaired.																				

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 5				P-1 Line Item Number / Title: 5429 / ASW Support Equipment					Aggregated Items: ASW Range Support Equipment (3)			
Item Number / Title [DODIC]	OCO	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
5) VC005 - HSMST (HIGH SPEED MANEUVERABLE SURFACE TARGET)												
5.1) VC005 - HSMST (SHIPS) ⁽¹²⁾		2017 ⁽¹³⁾	Silverships / Theodore, AL	C / FFP	NAVSEA	Apr 2017	Aug 2017	104	185,558.00	Y		Nov 2016
5.1) VC005 - HSMST (SHIPS) ⁽¹²⁾		2018	TBD / TBD	C / FFP	NAVSEA	Aug 2018	Dec 2018	40	197,576.00	Y		Feb 2018
5.1) VC005 - HSMST (SHIPS) ⁽¹²⁾		2019	TBD / TBD	C / FFP	NAVSEA	Apr 2019	Aug 2019	30	201,528.00	N		Nov 2018
7) VC007 - FACT (Fast Attack Craft Target)												
7.1) VC007 - FACT (Fast Attack Craft Target) (SHIPS)		2016	Gravois Aluminum Boats, LLC / Jeanerette, LA	C / FFP	NAVSEA	Sep 2016	Jul 2017	1	657,000.00	Y		Feb 2016
7.1) VC007 - FACT (Fast Attack Craft Target) (SHIPS)		2017	Gravois Aluminum Boats, LLC / Jeanerette, LA	C / FFP	NAVSEA	Nov 2017	Aug 2018	1	670,037.00	Y		Jan 2017
7.1) VC007 - FACT (Fast Attack Craft Target) (SHIPS)		2018	TBD / TBD	C / FFP	NAVSEA	Sep 2018	Mar 2019	1	683,437.00	Y		Mar 2018

Footnotes:

⁽¹³⁾ Gravois Aluminum Boats, LLC, Jeanerette, LA, was also awarded an HSMST contract. Two HSMST contract awards for FY17.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 6: Other Ordnance Support Equipment							P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip					
ID Code (A=Service Ready, B=Not Service Ready): B				Program Elements for Code B Items: N/A				Other Related Program Elements: 0603654N, 0604654N, 0604653N				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	624.233	92.655	75.966	14.258	33.580	47.838	15.079	11.572	11.775	11.998	-	891.116
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	624.233	92.655	75.966	14.258	33.580	47.838	15.079	11.572	11.775	11.998	-	891.116
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	624.233	92.655	75.966	14.258	33.580	47.838	15.079	11.572	11.775	11.998	-	891.116
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	0.127	0.002	-	0.002	-	-	0.696	0.709	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description:</p> <p>The FY 2019 funding request was reduced by \$1.289 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.</p> <p>Explosive Ordnance Disposal (EOD) Equipment procures and manufactures Navy EOD required tools and equipment in support of both OCONUS and CONUS operations that allow the ability to detect, access, diagnose, render safe, exploit, and dispose threats to National Security. Current missions now require increased standoff distances and remote means to perform operational tasks due to the increased lethality of munitions and Weapons of Mass Destruction.</p> <p>The Expeditionary Exploitation Unit (EXU-1) provides technical exploitation of IEDs and conventional ordnance to provide time sensitive, technical intelligence, tactical and operational information to EOD warfighters and National level intelligence activities. This program procures tools and equipment in support of their mission to collect, evaluate, analyze, and interpret foreign material acquisition and its relationship to the EOD community.</p> <p>Counter Radio-Controlled Improvised Explosive Device (IED) Electronic Warfare (CREW) systems that disrupt enemy command and control radio frequency (RF) communications associated with IEDs is procured by this program. And, in support of JUONS CC-0558 Counter Unmanned Aerial System (C-UAS)Capabilities this program also supports the Navy effort to field reconfigured CREW dismounted systems with an initial, quick response, man-portable C-UAS capability. The C-UAS capability has since been expanded to include all JCREW variants and includes upgrades to system hardware.</p> <p>The Navy is responsible for the management and execution of the Joint Service Explosive Ordnance Disposal (EOD) unified procurement system as assigned by DOD Directive 5160.62.</p>												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy							Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 6: Other Ordnance Support Equipment						P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: 0603654N, 0604654N, 0604653N				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-5	1 / EOD - CREW Equipment	P-5a, P-21			- / 624.233	- / 92.655	- / 75.966	- / 14.258	- / 33.580	- / 47.838
P-40	Total Gross/Weapon System Cost				- / 624.233	- / 92.655	- / 75.966	- / 14.258	- / 33.580	- / 47.838
<p>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications.</p> <p>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</p>										
<p>Justification:</p> <p>FY 2019 baseline funding will procure Navy EOD Equipment, Decision Support System (DSS) upgrades to Joint Service EOD Common Controller Platform, and DSS Production Environments, EOD Outfitting equipment, Advanced EOD Robotics Production Engineering, Acceptance, Test & Evaluation, Product Improvement of the EOD equipment; EOD training and related support; Technical Training material used for training at the Naval School Explosive Ordnance Disposal.</p> <p>FY2019 procures 38 Advanced Explosive Ordnance Disposal Robotics System (AEODRS) Increment 1 and nonrecurring production start up for AEODRS Inc 2 as well as Mobile In-Country Exploitation (ICE), tools and equipment.</p> <p>Additionally, FY 2019 baseline funds will procure Combined Explosive Exploitation Cell Platoon Laboratory Table of Allowance equipment for intelligence mission is to collect, evaluate, analyze, and interpret foreign material acquisition and its relationship to the EOD community(i.e. Advanced X-Ray; Weapons Assessment tools).</p> <p>In FY 2019 this program also provides for the procurement of Counter Radio-Controlled Improvised Explosive Device (IED) Electronic Warfare (CREW) systems that disrupt enemy command and control radio frequency (RF) communications associated with IEDs. This includes the procurement of Joint CREW systems reconfigured to provide a Counter Unmanned Aerial System (C-UAS) capability in response to Joint Urgent Operational Need (JUON)CC-0558.</p> <p>OCO:</p> <p>FY 2019 Overseas Contingency Operations (OCO) funds support Expeditionary Exploitation Unit One (formerly TSD) supports combatant command requirements in Operation Freedom Sentinel and Operation Inherent Resolve.</p> <p>The program also provides for the procurement of Counter Unmanned Aerial System (C-UAS) capability in response to a Joint Urgent Operational need (JUON-CC-0558). This will include the upgrade of previously fielded systems.</p>										

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6						P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip						Item Number / Title [DODIC]: 1 / EOD - CREW Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :									MDAP/MAIS Code:									
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity (Units in Each)				-		-		-		-		-		-				
Gross/Weapon System Cost (\$ in Millions)				624.233		92.655		75.966		14.258		33.580		47.838				
Less PY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Net Procurement (P-1) (\$ in Millions)				624.233		92.655		75.966		14.258		33.580		47.838				
Plus CY Advance Procurement (\$ in Millions)				-		-		-		-		-		-				
Total Obligation Authority (\$ in Millions)				624.233		92.655		75.966		14.258		33.580		47.838				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares (\$ in Millions)				-		-		0.127		0.002		-		0.002				
Gross/Weapon System Unit Cost (\$ in Dollars)				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Hardware - VN075 - EOD EQUIPMENT/SYSTEM Cost																		
Recurring Cost																		
1.1.1) ADVANCED EOD ROBOT ⁽¹⁾ (1)	222,222.22	18	4.000	226,964.28	28	6.355	-	-	-	243,028.57	35	8.506	-	-	-	243,028.57	35	8.506
Subtotal: Recurring Cost	-	-	4.000	-	-	6.355	-	-	-	-	-	8.506	-	-	-	-	-	8.506
Subtotal: Hardware - VN075 - EOD EQUIPMENT/ SYSTEM Cost	-	-	4.000	-	-	6.355	-	-	-	-	-	8.506	-	-	-	-	-	8.506
Hardware - VN077 - EOD OUTFITTING Cost																		
Recurring Cost																		
2.1.1) Expeditionary Exploitation Unit One (EXU-1) ⁽²⁾	-	-	14.321	-	-	1.000	-	-	8.170	-	-	0.782	-	-	2.680	-	-	3.462
2.1.2) MATERIAL FOR NAVSCOLEOD ⁽³⁾	-	-	3.143	-	-	0.350	-	-	0.350	-	-	0.305	-	-	-	-	-	0.305
2.1.3) EOD DSS CIP ⁽⁴⁾	-	-	10.054	-	-	1.131	-	-	1.233	-	-	1.268	-	-	-	-	-	1.268
2.1.4) NAVY EOD EQUIPMENT	-	-	38.821	-	-	0.067	-	-	-	-	-	0.029	-	-	-	-	-	0.029
2.1.5) JS EOD MOBILE ICE MODULES ⁽⁵⁾	-	-	2.027	-	-	0.200	-	-	0.200	-	-	0.100	-	-	-	-	-	0.100
Subtotal: Recurring Cost	-	-	68.366	-	-	2.748	-	-	9.953	-	-	2.484	-	-	2.680	-	-	5.164

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6						P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip						Item Number / Title [DODIC]: 1 / EOD - CREW Equipment						
ID Code (A=Service Ready, B=Not Service Ready) :											MDAP/MAIS Code:							
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Subtotal: Hardware - VN077 - EOD OUTFITTING Cost	-	-	68.366	-	-	2.748	-	-	9.953	-	-	2.484	-	-	2.680	-	-	5.164
Hardware - VN870 - JOINT CREW Cost																		
Non Recurring Cost																		
3.1.1) JOINT CREW ^(†) (6)	258,600.00	25	6.465	139,400.00	577	80.434	325,338.00	75	24.400	-	-	-	-	-	-	-	-	-
3.1.2) TECH INSERTION and REFRESH	-	-	0.001	-	-	0.774	-	-	0.812	-	-	0.836	-	-	-	-	-	0.836
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ^(†) (7)	-	-	-	-	-	-	488,666.67	75	36.650	-	-	0.000	618,000.00	50	30.900	618,000.00	50	30.900
3.1.4) NSW COUNTER UNMANNED AERIAL SYSTEM (CUAS) ⁽⁸⁾	-	-	-	-	-	-	-	-	1.600	-	-	-	-	-	-	-	-	-
Subtotal: Non Recurring Cost	-	-	6.466	-	-	81.208	-	-	63.462	-	-	0.836	-	-	30.900	-	-	31.736
Subtotal: Hardware - VN870 - JOINT CREW Cost	-	-	6.466	-	-	81.208	-	-	63.462	-	-	0.836	-	-	30.900	-	-	31.736
Support - VN830 - PRODUCTION ENGINEERING Cost																		
4.1) PRODUCTION ENGINEERING ⁽⁹⁾	-	-	11.325	-	-	0.942	-	-	1.045	-	-	1.060	-	-	-	-	-	1.060
Subtotal: Support - VN830 - PRODUCTION ENGINEERING Cost	-	-	11.325	-	-	0.942	-	-	1.045	-	-	1.060	-	-	-	-	-	1.060
Support - VN850 - PRODUCT IMPROVEMENT Cost																		
5.1) PRODUCT IMPROVEMENT ⁽¹⁰⁾	-	-	7.836	-	-	0.824	-	-	0.574	-	-	0.508	-	-	-	-	-	0.508
Subtotal: Support - VN850 - PRODUCT IMPROVEMENT Cost	-	-	7.836	-	-	0.824	-	-	0.574	-	-	0.508	-	-	-	-	-	0.508
Support - VN860 - ACCEPTANCE, TEST & EVALUATION Cost																		
6.1) ACCEPTANCE, TEST & EVALUATION ⁽¹¹⁾	-	-	7.794	-	-	0.335	-	-	0.645	-	-	0.599	-	-	-	-	-	0.599

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Exhibit P-5, Cost Analysis: PB 2019 Navy													Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6						P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip							Item Number / Title [DODIC]: 1 / EOD - CREW Equipment					
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
6.2) JOINT CREW ACCEPTANCE TEST & EVALUATION	-	-	3.104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - VN860 - ACCEPTANCE, TEST & EVALUATION Cost	-	-	10.898	-	-	0.335	-	-	0.645	-	-	0.599	-	-	-	-	-	0.599
Support - VNTNG - INITIAL TRAINING Cost																		
7.1) VNTNG - INITIAL TRAINING ⁽¹²⁾	-	-	3.010	-	-	0.243	-	-	0.287	-	-	0.265	-	-	-	-	-	0.265
Subtotal: Support - VNTNG - INITIAL TRAINING Cost	-	-	3.010	-	-	0.243	-	-	0.287	-	-	0.265	-	-	-	-	-	0.265
Support - PRIOR YEARS CUMULATIVE FUNDING Cost																		
8.1) PRIOR YEAR FUNDING	-	-	512.332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Support - PRIOR YEARS CUMULATIVE FUNDING Cost	-	-	512.332	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost	-	-	624.233	-	-	92.655	-	-	75.966	-	-	14.258	-	-	33.580	-	-	47.838

(†) indicates the presence of a P-5a

Footnotes:

- (1) Advanced EOD Robotics Family of System provides USN EOD outfitting dismounted operations systems for performing operations in remote locations or when Joint Service Explosive Ordnance Disposal (JSEOD) forces are directly supporting maneuver forces in the anticipation of an incident. Procurement of systems support modular open architecture approaches for reduction of equipment footprint.
- (2) Expeditionary Exploitation Unit (EXU1): Provides for outfitting of EXU-1 Detachment approved Table of Allowance to address operational requirements for IED exploitation support of global tasking.
- (3) MATERIAL FOR NAVSCOLEOD: Provides for inert ordnance material to Naval School Explosive Ordnance Disposal (NAVSCOLEOD) in support of Joint Service training.
- (4) EOD DECISION SUPPORT SYSTEM (DSS) CIP: Procurement of Joint EOD Decision Support System continuous improvement for major modifications to include the Joint EOD Common Controller Platform and Joint EOD Portal for access to relevant and timely information to extend military capability.
- (5) JS EOD MOBILE ICE MODULES: Provides self contained, deployable MILVAN type container configured and outfitted to perform ordnance and IED exploitation.
- (6) JOINT CREW Provides for the procurement, support, and other related costs of the Joint Counter Radio Controlled Improvised Explosive Device - Electronic Warfare (JCREW) program and related family of systems that provide countermeasures against the global Radio Controlled IED (RCIED) threat.
- (7) JOINT CREW UNMANNED AERIAL SYSTEMS: Procurement of Joint CREW systems to provide a Counter Unmanned Aerial System (CUAS) capability in support of Joint Urgent Operational Need (JUON) CC-0558. Unit price changes between FY2018 to FY2019 reflects procurement of different mix of variant types. More details are available at a higher classification.
- (8) NSW COUNTER UNMANNED AERIAL SYSTEM: Supports the procurement of Naval Surface Warfare to provide a Counter Unmanned Aerial System (C-UAS) capability in response to a Joint Urgent Operational Need (JUON)CC-0558.

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6	P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip	Item Number / Title [DODIC]: 1 / EOD - CREW Equipment
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>(9) PRODUCTION ENGINEERING Provides production engineering support for all EOD production contracts. Reviews all technical data packages prior to procurement and provide procurement instruction to the procuring activity in support of the EOD unified procurement system.</p> <p>(10) PRODUCT IMPROVEMENT Engineering services to improve EOD Systems/Equipment in production to improve maintainability, utilize current technology and decrease cost.</p> <p>(11) ACCEPTANCE, TEST & EVALUATION Test, inspect, accept first articles and, on a 100% basis, the production quantity of EOD tools and equipment being procured.</p> <p>(12) INITIAL TRAINING Provides training on EOD systems and related support.</p>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6			P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip						Item Number / Title [DODIC]: 1 / EOD - CREW Equipment			
Cost Elements	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1.1.1) ADVANCED EOD ROBOT ^(†)		2016	NORTHROP GRUMMAN / Herndon, VA	C / FFP	NSWCIHEOD	Mar 2016	Mar 2017	18	222,222.00	Y		Jun 2014
1.1.1) ADVANCED EOD ROBOT ^(†)		2017	NORTHROP GRUMMAN / Herndon, VA	C / FFP	NAVSEA	Sep 2017	Sep 2018	28	226,964.28	Y		Jun 2014
1.1.1) ADVANCED EOD ROBOT ^(†)		2019	NORTHROP GRUMMAN / Herndon, VA	C / TBD	NAVSEA	Nov 2019	Nov 2020	35	243,028.57	Y		Jun 2014
3.1.1) JOINT CREW ^(†)		2016	NGC / San Diego, CA	C / FPIF	NAVSEA	Jul 2016	Mar 2017	25	117,160.00	Y		Oct 2014
3.1.1) JOINT CREW ^(†)	✓	2017	TBD / UNKNOWN	C / FFP	NAVSEA	Aug 2017	Dec 2018	577	139,400.00	Y		Aug 2016
3.1.1) JOINT CREW ^(†)	✓	2018	TBD / UNKNOWN	C / FFP	NAVSEA	Jan 2018	Apr 2019	75	325,338.00	Y		Aug 2016
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ^(†)	✓	2018	NORTHROP GRUMMAN / San Diego, CA	C / TBD	NAVSEA	Jan 2018	May 2019	75	378,666.00	Y		
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ^(†)	✓	2019	NORTHROP GRUMMAN / San Diego, CA	C / TBD	NAVSEA	Jan 2019	May 2020	50	618,000.00	N	Jun 2018	Jun 2018

^(†) indicates the presence of a P-21

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018																		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6										P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip										Item Number / Title [DODIC]: 1 / EOD - CREW Equipment																		
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2016										Fiscal Year 2017														BALANCE							
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2015	BAL DUE AS OF 1 OCT	Calendar Year 2016										Calendar Year 2017																					
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								
1.1.1) ADVANCED EOD ROBOT ⁽¹⁾																																						
	1	2016	NAVY	18	0	18											A	-	-	-	-	-	-	-	-	-	-	-	-	18								0
	1	2017	NAVY	28	0	28																									A	-	28					
	1	2019	NAVY	35	0	35																						35										
3.1.1) JOINT CREW ⁽⁶⁾																																						
	2	2016	NAVY	25	0	25											A	-	-	-	-	-	-	-	-	-	-	-	25								0	
✓	3	2017	NAVY	577	0	577																									A	-	577					
✓	3	2018	NAVY	75	0	75																						75										
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ⁽⁷⁾																																						
✓	4	2018	NAVY	75	0	75																						75										
✓	4	2019	NAVY	50	0	50																						50										
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP								

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6										P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip										Item Number / Title [DODIC]: 1 / EOD - CREW Equipment														
Cost Elements <i>(Units in Each)</i>							Fiscal Year 2018										Fiscal Year 2019														BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2017	BAL DUE AS OF 1 OCT				Calendar Year 2018										Calendar Year 2019														
							OC T	NO V	DE C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	NO V	DE C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1.1.1) ADVANCED EOD ROBOT ⁽¹⁾																																		
	1	2016	NAVY	18	18	0																										0		
	1	2017	NAVY	28	0	28	-	-	-	-	-	-	-	-	-	-	-	28														0		
	1	2019	NAVY	35	0	35																										35		
3.1.1) JOINT CREW ⁽⁶⁾																																		
	2	2016	NAVY	25	25	0																										0		
✓	3	2017	NAVY	577	0	577	-	-	-	-	-	-	-	-	-	-	-	-	-	72	73	72	72	72	72	72	72				0			
✓	3	2018	NAVY	75	0	75				A	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	10	10	10	10	15				
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ⁽⁷⁾																																		
✓	4	2018	NAVY	75	0	75				A	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	8	8	8	35				
✓	4	2019	NAVY	50	0	50															A	-	-	-	-	-	-	-	-	-	-	-	-	50
							OC T	NO V	DE C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	NO V	DE C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018														
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6										P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip										Item Number / Title [DODIC]: 1 / EOD - CREW Equipment														
Cost Elements (Units in Each)							Fiscal Year 2020												Fiscal Year 2021												B A L A N C E			
O C C O	M F R #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2019	BAL DUE AS OF 1 OCT	Calendar Year 2020												Calendar Year 2021															
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				
1.1.1) ADVANCED EOD ROBOT ⁽¹⁾																																		
	1	2016	NAVY	18	18	0																											0	
	1	2017	NAVY	28	28	0																											0	
	1	2019	NAVY	35	0	35		A	-	-	-	-	-	-	-	-	-	-	-	35													0	
3.1.1) JOINT CREW ⁽⁶⁾																																		
	2	2016	NAVY	25	25	0																											0	
✓	3	2017	NAVY	577	577	0																											0	
✓	3	2018	NAVY	75	60	15	8	7																										0
3.1.3) JCREW COUNTER UNMANNED AERIAL SYSTEMS (CUAS) ⁽⁷⁾																																		
✓	4	2018	NAVY	75	40	35	8	8	7	7	5																						0	
✓	4	2019	NAVY	50	0	50	-	-	-	-	-	-	-	6	6	6	6	6	6	7	7													0
							O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P	O C T	N O V	D E C	J A N	F E B	M A R	A P R	M A Y	J U N	J U L	A U G	S E P				

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6					P-1 Line Item Number / Title: 5509 / Explosive Ordnance Disposal Equip				Item Number / Title [DODIC]: 1 / EOD - CREW Equipment			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	NORTHROP GRUMMAN - Herndon, VA				0	0	0	0	0	0	0	0
2	NGC - San Diego, CA				0	0	0	0	0	0	0	0
3	TBD - UNKNOWN				0	0	0	0	0	0	0	0
4	NORTHROP GRUMMAN - San Diego, CA				0	0	0	0	0	0	0	0

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand). If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 6: Other Ordnance Support Equipment	P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million
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ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	75.353	6.243	5.981	5.378	0.000	5.378	5.517	5.766	5.875	6.001	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	75.353	6.243	5.981	5.378	0.000	5.378	5.517	5.766	5.875	6.001	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	75.353	6.243	5.981	5.378	0.000	5.378	5.517	5.766	5.875	6.001	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

[P40A / RA004 - QUALITY EVAL TECH & EQUIPMENT (QETE)]: Provides funding to procure test systems and equipment in support of the Navy weapons systems and ordnance Quality Evaluation (QE) Program. The purpose of the Navy QE Program is to ensure that only safe, quality, reliable, and ready Navy and Marine Corps weapons systems and ordnance items are provided to the Fleet. The results of the QE stock surveillance testing is technical readiness data used to predict when items degrade to the point where they become unsafe to store or would fail to function (unreliable) when needed and should be removed from service.

This generic (non-weapons systems specific) test equipment is needed to assess the effects of aging and exposure to environmental conditions on Navy weapons systems and ordnance such as mines, gun ammunition, missiles, pyrotechnics, demolition systems/devices, bombs, and torpedoes throughout the in-service portion of their life cycle and will be located at NAVSEA engineering field activities. Requirements for the test equipment come from a need to replace or modernize obsolete or economically non-repairable equipment or to acquire new or expanded generic test capabilities when new evaluation techniques or process are needed. The equipments procured by these funds are generally "one of a kind" and are used to support generic Navy weapons systems and ordnance types. Weapons systems specific equipment is procured/funded via the individual weapons system Program Management offices. After the weapon specific equipment has entered the inventory, these funds adapt the capability, if feasible, to become more generic and support more than one weapon system. This reduces the overall economic burden to the Navy.

[P40A / RA005 - FLEET MINE SUPPORT EQUIPMENT]: Mine Countermeasure Targets are used to emulate both physically and electronically Foreign mine threats for Fleet training, exercises, ranges, and platform and system validation. Instrumented Mine Countermeasures (MCM) Targets can be programmed to behave and function like real foreign mine threats for mine sweeping and platform validation where non-instrumented Mine Countermeasure Targets emulate foreign threats physically for mine hunting training and system validation. Non-instrumented MCM Targets are also used for mine neutralization training and validation.

[P40A / RA007 - GRIFFIN MISSILE SYSTEM (GMS) INITIAL TECHNICAL REFRESH]: This line continues funding for Griffin Missile System under a new grouping, Patrol Combatants. This is a technical adjustment to move non-frigate funding out of the Frigate Missile funding group. RA007 funding supports major initial replacement systems for the Griffin Missile (GMS) Program to include Electro-Optical Infra-Red sensor with laser designator, Battlefield Management System, Launcher/Launcher components. Funding also procures all technical refresh upgrades of the GMS hardware and software aboard Patrol Coastal (PC) ships. Upgrades will include: Battlefield Management System (BMS) workstation hardware, latest version of BMS system software, and refresher training. Funds will also support management of contractor efforts, preparation of installation plans, performance of ship checks, procurement of materials, oversight of shipboard installation and Quality Assurance (QA), conduct of sparing analysis, reliability analysis, system safety analysis, logistical support, installation and testing of all software and shipboard training.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 6: Other Ordnance Support Equipment		P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million
ID Code (A=Service Ready, B=Not Service Ready): B	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P40A / RA003 - INDUSTRIAL FACILITIES]: Provides funding for capital type rehabilitation projects at two (2) government-owned, contractor- operated (GOCO) plants for weapon systems. These plants have an average age of 45 years and lack of proper maintenance will severely limit capabilities to maintain scheduled production rates and overall productivity. Estimates support environmental, safety, energy conservation, and major repair at the GOCO facilities.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 6: Other Ordnance Support Equipment						P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million				
ID Code (A=Service Ready, B=Not Service Ready): B			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A										
Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Items Less Than \$5 Million	P-5a			- / 75.353	- / 6.243	- / 5.981	- / 5.378	- / -	- / 5.378
P-40	Total Gross/Weapon System Cost				- / 75.353	- / 6.243	- / 5.981	- / 5.378	- / 0.000	- / 5.378
<small>*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.</small>										
<small>Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.</small>										

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6									P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million							Aggregated Items Title: Items Less Than \$5 Million					
Item Number / Title [DODIC]	ID CD	MDAP/ MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
1) MAINTENANCE SUPPORT ACTIVITIES																					
1.1) RA004 - QUALITY EVAL TECH & EQUIPMENT (QETE)	B		-	-	18.574	-	-	1.522	-	-	1.599	-	-	1.478	-	-	-	-	-	1.478	
Subtotal: 1) MAINTENANCE SUPPORT ACTIVITIES			-	-	18.574	-	-	1.522	-	-	1.599	-	-	1.478	-	-	-	-	-	1.478	
2) MINE COUNTERMEASURES FORCES																					
2.1) RA005 - FLEET MINE SUPPORT EQUIPMENT	B		-	-	9.929	-	-	2.356	-	-	1.814	-	-	1.785	-	-	-	-	-	1.785	
Subtotal: 2) MINE COUNTERMEASURES FORCES			-	-	9.929	-	-	2.356	-	-	1.814	-	-	1.785	-	-	-	-	-	1.785	
3) FRIGATES - MISSILE																					
3.1) RA001 - FLT SUPPORT ORDALT PROCUREMENT (MK92)	A		793,666.67	9	7.143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.2) RA4M6 - FMP INSTALLATION ^(†)	A		86,727.27	11	0.954	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.3) RA006 - GRIFFIN MISSILE SYSTEM (GMS) ^(†)	A		4,928K	5	24.639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3.4) RA007 - GRIFFIN MISSILE SYSTEM (GMS) INITIAL TECHNICAL REFRESH	A		-	-	6.313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Subtotal: 3) FRIGATES - MISSILE			-	-	39.049	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4) PATROL COMBATANTS																					
4.1) RA007 - GRIFFIN MISSILE SYSTEM (GMS) INITIAL TECHNICAL REFRESH	A		-	-	-	-	-	1.902	-	-	1.583	-	-	1.635	-	-	-	-	-	1.635	
Subtotal: 4) PATROL COMBATANTS			-	-	0.000	-	-	1.902	-	-	1.583	-	-	1.635	-	-	-	-	-	1.635	
5) TOMAHAWK AND TOMAHAWK MISSILE PLANNING CENTER																					
5.1) RA003 - INDUSTRIAL FACILITIES ^(†)	A		1,950K	4	7.801	463,000.00	1	0.463	985,000.00	1	0.985	480,000.00	1	0.480	-	-	-	480,000.00	1	0.480	
Subtotal: 5) TOMAHAWK AND TOMAHAWK MISSILE PLANNING CENTER			-	-	7.801	-	-	0.463	-	-	0.985	-	-	0.480	-	-	-	-	-	0.480	
Total			-	-	75.353	-	-	6.243	-	-	5.981	-	-	5.378	-	-	-	-	-	5.378	
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																					

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6	P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million	Aggregated Items Title: Items Less Than \$5 Million
<div>(†) indicates the presence of a P-5a</div>		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 6				P-1 Line Item Number / Title: 5543 / Items Less Than \$5 Million					Aggregated Items: Items Less Than \$5 Million			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
3) FRIGATES - MISSILE												
3.2) RA4M6 - FMP INSTALLATION		2014	NSWC/PHD / PORT HUENEME, CA	WR	NAVSEA	Jan 2015	Jan 2015	3	33,333.33	Y		Mar 2014
3.3) RA006 - GRIFFIN MISSILE SYSTEM (GMS)		2014	Naval Surface Warfare Center Dahlgren / Dahlgren, Va	Various	NSWC/Dahlgren	Dec 2013	Sep 2014	5	1,609K	Y		Oct 2013
5) TOMAHAWK AND TOMAHAWK MISSILE PLANNING CENTER												
5.1) RA003 - INDUSTRIAL FACILITIES		2016	DLA Aviation / RICHMOND, VA	MIPR	DLA/AVIATION	Mar 2017	Jul 2017	1	499,000.00	Y		Mar 2016
5.1) RA003 - INDUSTRIAL FACILITIES		2017	DLA Aviation / RICHMOND, VA	MIPR	DLA/AVIATION	Jun 2018	Oct 2018	1	463,000.00	Y		Jan 2018
5.1) RA003 - INDUSTRIAL FACILITIES		2018	DLA Aviation / RICHMOND, VA	MIPR	DLA/AVIATION	Jun 2018	Oct 2018	1	985,000.00	Y		Jan 2018
5.1) RA003 - INDUSTRIAL FACILITIES		2019	DLA Aviation / RICHMOND, VA	MIPR	DLA/AVIATION	Mar 2019	Jul 2019	1	480,000.00	Y		Oct 2018

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance						P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods						
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A					Other Related Program Elements: N/A				
Line Item MDAP/MAIS Code: N/A												
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	319.539	46.746	74.550	65.543	0.000	65.543	73.495	68.128	78.327	79.894	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	319.539	46.746	74.550	65.543	0.000	65.543	73.495	68.128	78.327	79.894	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	319.539	46.746	74.550	65.543	0.000	65.543	73.495	68.128	78.327	79.894	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	0.367	0.769	0.322	-	0.322	0.329	0.343	-	-	-	2.130
Flyaway Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description:												
The OPN 5661 line procures, installs and delivers training devices at the seven schoolhouses worldwide. The funds support Hull, Mechanical, and Electrical (HM&E) and Combat Systems training requirements, training upgrades and engineering sustainment for the Submarine Weapon Systems. Funding includes modernization of training devices to maintain compatibility with existing fleet operational equipment and to implement Trainer Enhancement Changes (TECs) as directed by the Fleet Type Commanders and Resource Sponsor (N97).												
Overall program funding and requirements for the Submarine Multi-Mission Team Trainer (SMMTT) procurement / modernization increased beginning in FY2018 based on Fleet availabilities and Trainer alignment to increase support for VA Class Modernization, SSBN/SSGN Switchable SMMTT and Sensor Modernization tasks that were not previously funded (SMMTT New Normal).												
Line item 5661 was broken into five functional areas to support submarine training: Hull Mechanical & Electrical Trainers (HM&E), Engineering Trainers, Navigation Trainers, Combat Control Acoustic Trainers and Attack Center Trainers.												
[P40A / Submarine Training]: This line provides funds to modify/upgrade training devices to keep them compatible with equivalent changes made to Fleet operational equipment and to implement Training Enhancement Changes (TECs) to the trainer systems capabilities.												
[P40A / TD 100 HM&E TRAINERS]: This line procures HM&E Fleet and Team Trainer Technical Training Equipment (TTE), Training Devices (TD) and Training Enhancement Changes (TECs), which are centrally managed systems, support equipment and various modifications and upgrades to simulators / stimulators, such as: Submarine Ship Control Operator Trainer (SCOT) and Firefighter Trainer (FFT). These modifications and upgrades were identified by the Submarine Learning Center (SLC) and approved by Chief of Naval Operations (CNO) for use at the submarine training activities. Technical Training Equipment/Training Devices sustain high fidelity training and replaces equipment beyond economical repair or procures new equipment. Funds also procure Submarine High Risk Trainer requirements for Pressurized Submarine Escape Trainers and Damage Control Wet Trainers.												
[P40A / TD200 ENGINEERING TRAINERS]: This line procures and installs Fleet Interactive Display Equipment (FIDE) trainers, Virtual Interactive Display Equipment (VIDE), Training Enhancement Changes (TECs) and other Navy Engineering Training devices as identified by the Submarine Learning Center (SLC) and approved by the Chief of Naval Operations (CNO) for use at the submarine training activities. FIDEs/VIDEs support multiple ship classes and configurations at nine different geographic sites, each requiring different levels of installation work. Therefore, the cost for the program varies widely from year to year depending on the combination of these factors. FIDE and VIDE meet NAVSEA 08 requirements to provide advanced shore-based nuclear operator training.												

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P40A / TD 300 NAVIGATION TRAINERS]: This line procures Submarine Fleet and Team Navigation trainer sustaining equipment and systems which emulate ship characteristics. Navigation training systems include, but are not limited to: Virtual Environment Submarine (VESUB), Submarine Piloting and Navigation Trainers (SPAN), Reconfigurable SPAN (RSPAN), Submarine Bridge Trainer/Integrated SPAN (SBT/ISPAN) and associated upgrades to all Homeports, Navigation Databases, Periscope Simulation (PSIM) Harbor Databases, Electronic Chart Display and Information Systems-Navy (ECDIS-N) and PC-based Team Trainers including Mini-SPANs. A Single Story Bridge Trainer will be procured for Homeports where an SBT Dome MILCON cannot be accommodated. This line also provides configuration changes for the Voyage Management Systems (VMS), ECDIS-N, and the Submarine Multi Reconfigurable Training System (MRTS). The MRTS family includes VA CLASS Torpedo Room, Emergency Diesel Generator, Weapons Launch Console Team Trainer, and Submarine Communications Support System / Common Submarine Radio Room (SCSS / CSRR) trainers. The SBT/ISPAN is comprised of Virtual Tactical, Weapons, Mission Payload and Sonar Simulation Control, Beam Forming Sonar Simulation Trainer, VMS, ECDIS-N, Radar Simulation, Navigation Aids, Periscope Simulation (PSIM), and Harbor Databases. These training systems and Training Enhancement Changes (TECs) are identified by the Submarine Learning Center (SLC) and approved by Chief of Naval Operations (CNO), for use at the submarine training activities.</p> <p>[P40A / TD 400 COMBAT CONTROL ACOUSTIC TRAINERS]: This line procures Submarine Common Operational Analysis And Employment Trainer (COAET) fundamental and employment skill level, Sonar Employment Trainer (SET) and Beam Simulation For Sonar Trainers (BSST) acoustic operator employment skill and team training fleet requirements. Funds also provide for TECs, Virtualized Tactical Control (VTAC), BSST, Periscope Simulation (PSIM), SUBSKILLSNET, Weapons Control, Mission Payload Control, Advanced Processing Build (APB)/ Technical Insertion (TI), and Sonar Tactical Decision Aid (STDA) implementation. The Sonar Employment Trainer (SET) provides acoustic operator employment Fleet and team training for submarine sonar systems. It uses entirely commercial components to contain contact and environment models, simulations of the sensors and signal processing, simulated operator consoles, and an instructional subsystem including an instructor's console. SET is used to train advanced operators in the Advanced Sonar Employment and Sonar Supervisor courses. The SET is periodically upgraded to support current software Advanced Processor Builds (APBs) and Technical Insertions (TIs). The BSST is a light weight, medium fidelity sonar operator trainer for journeyman level training. COAET provides operator and introductory team training to submarine force personnel prior to entry into the Submarine Multi Mission Team Trainer (SMMTT) as well as supplemental training to off-load the heavily utilized attack center trainers. COAET utilizes partial tactical builds and emulations of the latest Sonar, Combat Control, Imaging and Electronic Warfare Systems which provide an environment substantially equivalent to that found on board ship, thus enabling students to develop and maintain the attack center expertise necessary to support Fleet operations.</p> <p>[P40A / TD 500 ATTACK CENTER TRAINERS]: The SUBMARINE MULTI MISSION TEAM TRAINER (SMMTT) line procures highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment to achieve desired submarine force readiness levels. Also, funding is included for Trainer Enhancement Changes (TECs). SMMTT integrates the Combat Control System (CCS) AN/BYG-1 installed on SSN/SSBN/SSGN Class submarines and is planned for future modernizations of software and hardware to provide enhanced warfighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) AN/BQQ-10 upgrades are being installed with future revisions which provides enhanced warfighter capabilities. The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines for these systems. The SMMTT provides operators and combat teams the opportunity to train ashore prior to and between deployments and is also used for SSN/SSGN crew certification. This program includes modifications to the functionality of the Periscope Simulator (PSIM) to provide common imaging training for CCS trainers and includes Electronic Surveillance Simulation Software. This trainer supports real world recorded sensors for playback in the trainer. This line supports additional SSBN Engineering Production Model (EPM) and TI/APB due to additional Trainer Enhancement requirements directed by the TYCOM.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018	
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance						P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods			
ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A									

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Submarine Training	P-5a			- / 198.266	- / 36.383	- / 55.036	- / 56.755	- / -	- / 56.755
P-3a	1 / SMMTT PH III MODS (TBD)				- / 121.273	- / 10.363	- / 19.514	- / 8.788	- / 0.000	- / 8.788
P-40	Total Gross/Weapon System Cost				- / 319.539	- / 46.746	- / 74.550	- / 65.543	- / 0.000	- / 65.543

Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Submarine Training	P-5a			- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / SMMTT PH III MODS (TBD)				- / 14.148	- / 11.199	- / 11.563	- / 11.880	- / 1.016	- / 209.744
P-40	Total Gross/Weapon System Cost				- / 73.495	- / 68.128	- / 78.327	- / 79.894	Continuing	Continuing

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:

The FY 2019 funding request was reduced by \$0.218 million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

The FY2017 funding was reduced by \$1.274 million in Navigation Training due to PB17 Congressional Mark for "unjustified growth".

The FY2019 funding request in PB19 is reduced from the PB18 request by \$1.165 million due to rate adjustments, inflation and other miscellaneous minor adjustments.

TD100 HME Trainers -

1.1 Firefighter Trainer (FFT) - TYCOM approved the requirement and funding to replace all existing Firefighter Trainers to meet the rigors of the USS MIAMI Flag Panel Fire Review.

FY18 procured a complete FFT trainer (upper and lower). FY2019 procures the engineering design and one lower level FFT Trainer. The lower level FFT is independently functional and the upper level adds dual capability not available prior to the USS Miami. The kits support multiple ship classes and configurations at nine different geographic sites, each requiring different levels of installation work. Therefore, the cost for the program varies widely from year to year depending on the combination of these factors.

TD200 Engineering Trainers -

2.1 Fleet Interactive Display Equipment (FIDE) - Cost increase above inflation due to additional maintenance support and equipment required to enable FIDE operation in FY2019.

2.2 Virtual Interactive Display Equipment (VIDE) - Cost increase above inflation due to additional maintenance support and equipment required to enable VIDE operation in FY2019.

TD300 Navigation Trainers -

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>3.1 Submarine Bridge Trainer (SBT)/Integrated Submarine Piloting and Navigation (ISPAN) - FY2018 procured one kit. FY2019 procures a hardware upgrade to the SBT only. The kits support multiple ship classes and configurations at nine different geographic sites, each requiring different levels of installation work. Therefore, the cost for the program varies widely from year to year depending on the combination of these factors.</p> <p>TD400 Combat Control Acoustic Trainers -</p> <p>4.1 Sonar Employment Trainer (SET) - FY2019 procures one kit which implements simulation upgrades to the SET.</p> <p>4.3 Common Operational Analysis And Employment Trainer (COAET) - FY2019 procures four kits which implement simulation upgrades to the COAET.</p> <p>TD500 Attack Center Trainers -</p> <p>5.1 SSBN Submarine Multi-Mission Team Trainer (SMMTT) - FY2019 procures updates to the current TI/APB for tactical and simulation subsystems for the SSBN SMMTT trainer.</p> <p>5.4 VA SMMTT New Normal - FY2019 updates the current TI/APB for tactical and simulation.</p> <p>5.6 SSGN SMMTT - FY2019 procures two dual use SSGN delta kits for TI/APB modernization.</p> <p>5.8 Sensor Simulation - FY 2019 cost greater due to procurement and distribution of sensor simulation software to the current TI/APB.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy																Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7									P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods							Aggregated Items Title: Submarine Training					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total			
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	
1) TD 100 HM&E TRAINERS																					
1.1) FIREFIGHTER TRAINER ^(†)	A		-	-	-	3,900K	2	7.800	3,834K	1	3.834	2,738K	1	2.738	-	-	-	2,738K	1	2.738	
1.2) SUBMARINE TRAINING DEVICE MODS	A		-	-	12.871	-	-	1.587	-	-	1.594	-	-	1.633	-	-	-	-	-	1.633	
1.3) SCOT MODS	A		-	-	6.307	-	-	1.169	-	-	1.190	-	-	1.211	-	-	-	-	-	1.211	
1.4) VSCOT MODS	A		-	-	5.483	-	-	0.908	-	-	0.924	-	-	0.942	-	-	-	-	-	0.942	
Subtotal: 1) TD 100 HM&E TRAINERS			-	-	24.661	-	-	11.464	-	-	7.542	-	-	6.524	-	-	-	-	-	6.524	
2) TD200 ENGINEERING TRAINERS																					
2.1) FIDE	A		-	-	14.997	-	-	3.006	-	-	3.056	-	-	3.398	-	-	-	-	-	3.398	
2.2) VIDE	A		-	-	-	-	-	1.600	-	-	1.624	-	-	1.710	-	-	-	-	-	1.710	
Subtotal: 2) TD200 ENGINEERING TRAINERS			-	-	14.997	-	-	4.606	-	-	4.680	-	-	5.108	-	-	-	-	-	5.108	
3) TD 300 NAVIGATION TRAINERS																					
3.1) SBT/ISPAN ^(†)	A		-	-	18.109	1,933K	1	1.933	1,639K	2	3.278	1,846K	1	1.846	-	-	-	1,846K	1	1.846	
3.4) NAVIGATION TRAINER UPDATES	A		-	-	13.317	-	-	0.288	-	-	0.287	-	-	0.304	-	-	-	-	-	0.304	
Subtotal: 3) TD 300 NAVIGATION TRAINERS			-	-	31.426	-	-	2.221	-	-	3.565	-	-	2.150	-	-	-	-	-	2.150	
4) TD 400 COMBAT CONTROL ACOUSTIC TRAINERS																					
4.1) SET ^(†)	A		-	-	9.557	1,287K	1	1.287	1,306K	1	1.306	1,332K	1	1.332	-	-	-	1,332K	1	1.332	
4.3) COAET MODIFICATIONS ^(†)	A		792,166.67	48	38.024	1,083K	4	4.332	1,102K	4	4.410	1,122K	4	4.489	-	-	-	1,122K	4	4.489	
Subtotal: 4) TD 400 COMBAT CONTROL ACOUSTIC TRAINERS			-	-	47.581	-	-	5.619	-	-	5.716	-	-	5.821	-	-	-	-	-	5.821	
5) TD 500 ATTACK CENTER TRAINERS																					
5.1) SSBN SMMTT ^(†)	A		-	-	-	7,995K	1	7.995	-	-	4.102	-	-	4.176	-	-	-	-	-	4.176	
5.3) SSN SMMTT EPM ^(†)	A		2,181K	13	28.352	2,153K	1	2.153	3,352K	1	3.352	3,414K	1	3.414	-	-	-	3,414K	1	3.414	
5.4) VA SMMTT New Normal ^(†)	A		-	-	-	-	-	-	4,060K	3	12.180	-	-	8.709	-	-	-	-	-	8.709	
5.5) VA SMMTT EPM	A		3,127K	5	15.633	-	-	-	-	-	4.060	-	-	-	-	-	-	-	-	-	
5.6) SSGN SMMTT ^(†)	A		-	-	-	-	-	-	-	-	2.100	6,050K	2	12.100	-	-	-	6,050K	2	12.100	
5.7) SMMTT TECH SUPPORT	A		-	-	35.616	-	-	2.325	-	-	4.303	-	-	3.531	-	-	-	-	-	3.531	
5.8) SENSOR SIMULATION	A		-	-	-	-	-	-	-	-	3.436	-	-	5.222	-	-	-	-	-	5.222	
Subtotal: 5) TD 500 ATTACK CENTER TRAINERS			-	-	79.601	-	-	12.473	-	-	33.533	-	-	37.152	-	-	-	-	-	37.152	

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7						P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods									Aggregated Items Title: Submarine Training					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
			Total	-	-	198.266	-	-	36.383	-	-	55.036	-	-	56.755	-	-	-	-	-

Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.
(†) indicates the presence of a P-5a

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods					Aggregated Items: Submarine Training			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) TD 100 HM&E TRAINERS												
1.1) FIREFIGHTER TRAINER		2017	ELECTRIC BOAT / NEW LONDON	C / FFP	** NO PCO **	Jun 2017	Jun 2017	2	3,900K	N	Oct 2018	
1.1) FIREFIGHTER TRAINER		2018	ELECTRIC BOAT / NEW LONDON	C / FFP	** NO PCO **	Feb 2018	Feb 2018	1	3,834K	N	Oct 2018	
1.1) FIREFIGHTER TRAINER		2019	ELECTRIC BOAT / NEW LONDON	C / TBD	** NO PCO **	Oct 2018	Oct 2018	1	2,738K	N	Oct 2020	
3) TD 300 NAVIGATION TRAINERS												
3.1) SBT/ISPAN		2017	NUWC NPT / NEWPORT, RI/CD	C / TBD	** NO PCO **	Dec 2017	Jun 2019	1	1,933K	Y		Oct 2017
3.1) SBT/ISPAN		2018	NUWC NPT / NEWPORT, RI/CD	C / TBD	** NO PCO **	Oct 2017	Apr 2019	2	1,639K	N	Oct 2018	Oct 2017
3.1) SBT/ISPAN		2019	NUWC NPT / NEWPORT, RI/CD	C / TBD	** NO PCO **	Oct 2018	Apr 2020	1	1,846K	N	Oct 2018	
4) TD 400 COMBAT CONTROL ACOUSTIC TRAINERS												
4.1) SET		2017	NSWC CD / BETHESDA, MD	Reqn	NSWC CD	Feb 2017	Feb 2017	1	1,287K	N		
4.1) SET		2018	NSWC CD / BETHESDA, MD	C / TBD	** NO PCO **	Oct 2017	Oct 2017	1	1,306K	N		
4.1) SET		2019	NSWC CD / BETHESDA, MD	C / TBD	** NO PCO **	Oct 2018	Oct 2018	1	1,332K	N		
4.3) COAET MODIFICATIONS		2017	NSWC CD / BETHESDA, MD	Reqn	NSWC CD	Oct 2016	Jun 2017	4	1,083K	N	Jun 2016	
5) TD 500 ATTACK CENTER TRAINERS												
5.1) SSBN SMMTT		2017	NSWC CD / BETHESDA, MD	Reqn	NSWC	Jan 2017	Apr 2017	1	7,995K	N	Sep 2017	
5.3) SSN SMMTT EPM		2017	NSWC CD / BETHESDA, MD	C / TBD	NSWC CD	Oct 2016	Oct 2016	1	2,153K	N		
5.4) VA SMMTT New Normal		2018	NSWC CD / BETHESDA, MD	C / TBD	NSWC CD	Oct 2017	Aug 2019	3	4,060K	Y		Apr 2017
5.6) SSGN SMMTT		2019	NSWC CD / BETHESDA, MD	C / TBD	NSWC CD	Oct 2018	Oct 2019	2	6,050K	Y		Jun 2017

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018		
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods						Modification Number / Title: 1 / SMMTT PH III MODS		
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	121.273	10.363	19.514	8.788	0.000	8.788	14.148	11.199	11.563	11.880	1.016	209.744
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	121.273	10.363	19.514	8.788	0.000	8.788	14.148	11.199	11.563	11.880	1.016	209.744
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	121.273	10.363	19.514	8.788	0.000	8.788	14.148	11.199	11.563	11.880	1.016	209.744
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
<p>Description: SMMTT upgrades to hardware and simulation to match current Fleet configurations.</p> <p>[SMMTT PHIII MODS] SMMTT Phase III Mods line procures software kits in FY2019 which are less expensive than the hardware kits in the aforementioned years. FY2020 are hardware procurements with the All World Environmental Simulator (AWESIM) capability added. FY2020 costs are higher than FY2019 due to the existing 2/4 tailored model SMMTT Phase III. FY2021-FY2023 are hardware procurements.</p>												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods						Modification Number / Title: 1 / SMMTT PH III MODS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: SMMTT PH III MODIFICATIONS				Modification Type: TBD				Related RDT&E PEs:					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> SMMTT PH III MODS													
B Kits													
Recurring													
1.1.1) SMMTT PHIII MODS - NonOrganic	36 / 117.701	3 / 9.623	3 / 18.775	6 / 8.028	- / -	6 / 8.028	4 / 13.373	3 / 10.411	3 / 10.725	3 / 10.830	- / -	61 / 199.466	
<i>Subtotal: Recurring</i>	- / 117.701	- / 9.623	- / 18.775	- / 8.028	- / -	- / 8.028	- / 13.373	- / 10.411	- / 10.725	- / 10.830	- / 0.000	- / 199.466	
<i>Subtotal: SMMTT PH III MODS</i>	36 / 117.701	3 / 9.623	3 / 18.775	6 / 8.028	- / -	6 / 8.028	4 / 13.373	3 / 10.411	3 / 10.725	3 / 10.830	- / -	61 / 199.466	
<i>Subtotal: Procurement, All Modification Items</i>	- / 117.701	- / 9.623	- / 18.775	- / 8.028	- / -	- / 8.028	- / 13.373	- / 10.411	- / 10.725	- / 10.830	- / 0.000	- / 199.466	
Installation													
<i>Modification Item 1 of 1:</i> SMMTT PH III MODS	- / 3.572	- / 0.740	- / 0.739	- / 0.760	- / 0.000	- / 0.760	- / 0.775	- / 0.788	- / 0.838	- / 1.050	- / 1.016	- / 10.278	
<i>Subtotal: Installation</i>	- / 3.572	- / 0.740	- / 0.739	- / 0.760	- / -	- / 0.760	- / 0.775	- / 0.788	- / 0.838	- / 1.050	- / 1.016	- / 10.278	
Total													
Total Cost (Procurement + Support + Installation)	121.273	10.363	19.514	8.788	0.000	8.788	14.148	11.199	11.563	11.880	1.016	209.744	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7										P-1 Line Item Number / Title: 5661 / Submarine Training Device Mods										Modification Number / Title: 1 / SMMTT PH III MODS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: SMMTT PH III MODS																															
Manufacturer Information																															
Manufacturer Name: NSWC CD/NUWC NPT ⁽¹⁾															Manufacturer Location: BETHESDA, MD/ NEWPORT, RI																
Administrative Leadtime (in Months): 6															Production Leadtime (in Months): 17																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Jan 2017				Jan 2018				Jan 2019				Jan 2020				Jan 2021													
Delivery Dates		May 2018				May 2019				May 2020				May 2021				May 2022													
Installation Information																															
Method of Implementation: AIT:: Installation Name: SMMTT PHIII MODS																															
Installation Cost		Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total							
		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)							
Prior Years		33 / 3.572		1 / 0.740		2 / 0.369		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		36 / 4.681					
FY 2017		- / -		- / -		2 / 0.370		1 / 0.375		0 / 0.000		1 / 0.375		- / -		- / -		- / -		- / -		- / -		0 / 0.000		3 / 0.745					
FY 2018		- / -		- / -		- / -		1 / 0.385		0 / 0.000		1 / 0.385		2 / 0.387		- / -		- / -		- / -		- / -		0 / 0.000		3 / 0.772					
FY 2019		- / -		- / -		- / -		- / -		- / -		- / -		3 / 0.388		3 / 0.390		- / -		- / -		- / -		0 / 0.000		6 / 0.778					
FY 2020		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.398		2 / 0.262		- / -		- / -		0 / 0.000		4 / 0.660					
FY 2021		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		2 / 0.576		1 / 0.212		0 / 0.000		3 / 0.788							
FY 2022		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		3 / 0.838		0 / 0.000		3 / 0.838							
FY 2023		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		3 / 1.016		3 / 1.016							
To Complete		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -					
Total		33 / 3.572		1 / 0.740		4 / 0.739		2 / 0.760		0 / 0.000		2 / 0.760		5 / 0.775		5 / 0.788		4 / 0.838		4 / 1.050		3 / 1.016		61 / 10.278							
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	33	-	-	-	1	-	-	2	2	-	-	1	1	-	-	3	2	-	3	-	2	-	-	-	4	-	-	-	4	3	61
Out	33	-	-	-	1	-	-	-	4	-	-	-	2	-	-	-	5	-	3	-	2	-	-	-	4	-	-	-	4	3	61
Footnotes: ⁽¹⁾ NSWC CD & NUWC NPT are collaborating warfare centers that manage and execute the SMMTT as directed by NAVSEA. Both warfare centers function as a prime for this effort. However, for cost efficiency purposes, they compete their cognizant tasks among multiple vendors with multiple orders to provide equipment/software in a timely manner to meet the fleet required training dates. As such, the SMMTT delivery is not linked to any single contract date.																															

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy **Date:** February 2018

Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance	P-1 Line Item Number / Title: 5664 / Surface Training Equipment
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ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
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Line Item MDAP/MAIS Code: N/A

Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (<i>Units in Each</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (<i>\$ in Millions</i>)	0.000	87.714	83.022	230.425	0.000	230.425	120.574	102.596	70.083	69.408	Continuing	Continuing
Less PY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (<i>\$ in Millions</i>)	0.000	87.714	83.022	230.425	0.000	230.425	120.574	102.596	70.083	69.408	Continuing	Continuing
Plus CY Advance Procurement (<i>\$ in Millions</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (<i>\$ in Millions</i>)	0.000	87.714	83.022	230.425	0.000	230.425	120.574	102.596	70.083	69.408	Continuing	Continuing
<i>(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)</i>												
Initial Spares (<i>\$ in Millions</i>)	-	-	-	0.108	-	0.108	0.111	0.111	0.123	0.136	Continuing	Continuing
Flyaway Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (<i>\$ in Dollars</i>)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

This line provides funding to procure, modify, and upgrade training devices to keep them compatible with equivalent changes made to Fleet operational equipment. Funds ensure alignment between Surface Learning Centers and Fleet Concentration Area training systems and Fleet training requirements as dictated by the Surface and Expeditionary Warfare Training Plan.

[P40A / LCS SEAFRAME SIMULATORS]: Funds procure Littoral Combat Ship (LCS) tactical training simulators and equipment for the respective LCS homeports and the Surface Warfare Officer School (SWOS) in Newport, Rhode Island. Simulators meet the Train to Qualify/ Train to Certify (T2Q/T2C) Key Performance Parameter (KPP) requirement of the Capabilities Development Document. Funding procures hardware and software associated with building the trainers and the installation of this hardware and software at the LCS Training Facilities (LTF) in each homeport and at SWOS enabling the increased throughput for 28 ships / 52 crews / 3,640 Sailors supporting CNO approved BLUE GOLD Plus crewing strategy and directly supporting the revised training requirements of the Navy's Comprehensive Review. This procurement enables ship Commanding Officers to witness watch stander crew performance under high-stress conditions given realistic at sea scenarios in the synthetic environment.. Trainers are required for each ship variant, located in the San Diego and Mayport homeports and at SWOS. Throughput of LCS crews requires more than one simulator of each variant in a homeport.

1.1) LCS Virtual Reality Labs & Networks and Modernization - Funds comprehensive network infrastructure and computing environment and Virtual Reality Labs (VRLs), within the LCS Training Facilities (LTF) to support delivery and management of all components of LCS watch stander Training. This modernization enables enhanced warfighter scenario training for the LCS crews in Combat Systems qualifications and ship systems troubleshooting, through the virtual network, without which, no systems within the LTF (currently being built in San Diego, and funded for Mayport) will interoperate or communicate with each other. Both LTFs are being built and designed around a central computer server farm (backbone) that houses all courseware, training scenarios, and student records. Without the network infrastructure, there is no way to distribute the required courseware and software around the LTF. Without the VRLs, there is no method of presenting previously developed Immersive Virtual Ship Environment (IVSE) courseware to students. Modernization efforts include regular/scheduled updates/upgrades to VSTS and include procurement of new servers, relays, and switches, along with the procurement of replacement Virtual Reality Lab (electronic classroom) equipment supporting increased crew throughput.

1.2) LCS Mission Bay Trainers & Modernization - Enable the qualification, training, and team certification of the individuals and teams deploying the LCS main battery - mission packages (MP). Live scenarios include prepping and launching/recovering of multi-ton mission module off-hull remote vehicles and operating of the internal cranes, doors, and other associated equipment in the Mission Bay. Modernizations provide updated MP deployment and recovery capability for enhanced warfighting readiness the individual full-scale replicas of the Mission Bay for both variants. Without the Mission Bay Trainer, there will be no realistic controlled scenario homeport training in the Mission Bay operations for the San Diego or Mayport-based crews and detachments during training pipeline, or off-hull, rapid refresh crew team training, and the primary warfare area (the Mission Bay) for the LCS ships will have no shore-based, controlled training capability in San Diego and Mayport, in this high-risk area of Mission Bay operations.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>1.3) LCS Integrated Tactical Trainers & ITT Modernization - These are full scale simulators of the Tactical Software enabling, initial and proficiency, integrated team training of Bridge, Combat Systems, Engineering, and Mission Package systems/watch stations. The ITT delivers Detect to Engage sequencing of ships Combat Systems and developing watch stander Command and Control for our future Navy warfighters. The quantity and type (based on variant) of trainers in San Diego and Mayport is dependent on the Navy's Strategic Laydown of the Littoral Combat Ships. Follow on ITT procurements will include integrated crew served weapon simulators (discussed below). Modernization to the ITT's enable ships baseline upgrades and realistic combat scenarios compatible with individual crew Combat System baseline to prepare crews for in Battle Force training. Without the ITTs, there is no way for the LCS crews and detachments to train in-port, as the LCS ships do not have an onboard training system requirement. Ships would have to train underway utilizing real targets and other Fleet assets, such as drones, and commercial air services to accomplish required qualifications and certifications for all of their training. The LCS Concept of Operations does not support such at-sea intensive training requirements.</p> <p>1.4) LCS Integrated Tactics Trainer / Combats Training System and Engineering Training System portion - procures Combats Training System and Engineering Training System that when combined with the Bridge Training System procured in FY16, form an LCS-2 Integrated Tactical Trainer. These are useable end items which will provide LTF San Diego with a complete ITT and are being procured in accordance with the Department's full funding policy.</p> <p>1.5) LCS Integrated Tactics Trainer Complete System - Procurement of the 2 complete trainers to include Bridge Training System, Combats Training System and Engineering Training System.</p> <p>1.6) LCS Bridge Trainers and Modernization - Devices that permit selected aspects of Bridge tasks (including Readiness Control Officer [RCO] tasks) to be practiced independently of Combat Systems Operations as found in more capable ITTs. This facilitates more efficient accomplishment of T2Q and T2C objectives. This trainer supports Officer training pipeline at SWOS, Newport in support of Division Officer, Department Head, and PXO/PCO training pipeline for Officer of the Deck Training and rapid refresh and skills enhancement in Mayport.</p> <p>1.7) LCS Tactical Action Officer Trainers Modernization - Modernization efforts include upgrades to the trainers through procurement of new servers, relays and switches as well as new consoles, joysticks and communication equipment.</p> <p>1.8) LCS Combat Systems Part Task Trainers (C2 PTT) (LCS 1 and LCS 2) . These devices permit training in selected aspects of Combat Systems Operations that are found in the more capable ITTs, to support individual skills development and practice, reduce the wear and tear on the ITTs, and allow the ITTs to more efficiently accommodate team training and certifications.</p> <p>Increase to procure two Integrated Tactical Trainers (ITTs) one for San Diego LCS Training Facility (LTF) and one for Mayport LTF.</p> <p>[P40A / LCS Integrated Tactics Trainer (ITT) Modernization]: In accordance with draft maturing Life Cycle Sustainment Plan for Trainers, Integrated Tactical Trainers (ITTs) require first upgrade to keep current with changing ship configurations five years after delivery of the trainer, and modernization as required.</p> <p>[P40A / CVN 78 Class Training Equipment]: This provides for several initiatives oriented to developing the formal life cycle training solutions for multiple mission critical CVN 78 contractor furnished equipment (CFE) systems. Funds procure CVN 78 Class training simulators and equipment for the applicable Navy Education and Training Command Centers of Excellence to achieve Ready For Training (RFT). In particular, the CFE items procured include: training simulators, ship system mock-ups, electronic classrooms, intelligent tutoring systems, and all engineering and facilities upgrades necessary for installation at the training facilities. Simulators are needed to meet warfighter mission and safety readiness requirements of the Naval Aviation Carrier Training Manual. Funding procures hardware and software associated with building the trainers' hardware and software for future installation at the applicable Centers of Excellence in Norfolk, Great Lakes, and at SWOS Newport. Trainers are required for each major new CVN 78 specific system, with initial procurements for the Norfolk homeport and SWOS, followed by procurements for the Great Lakes training center and the homeport of San Diego. This funding represents initial training systems procurement for Advanced Weapons Elevator (AWE), Machinery Control and Monitoring System (MCMS), valve actuators, Solid State Voltage & Frequency Converter (SSVFC), Aqueous Film Forming Foam (AFFF) System, video network, Voice Telephone System (VTS), Zonal Electrical Distribution System (ZEDS), Oxygen (O2) Systems, Plasma Arc Waste Destruction System (PAWDS), Steering Gear Control System (SGCS). Additionally, this funding supports all associated site preparations and installation costs for the procured training systems. The Formal Life Cycle Training program provides training delivery for effective warfighter skills required for safe operations and maintenance of the ship. There is no schoolhouse established for any of these new CFE systems being introduced on the CVN 78.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>[P40A / Ship to Shore Connector Full Mission Trainers]: SHIP TO SHORE CONNECTOR (SSC) FULL MISSION TRAINERS (FMT) - Funds SSC FMT which is a programmable simulator and is a fundamental element of SSC operator training. New SSC FMTs are required because LCAC FMTs will not support SSC crew training based on significant Command Module system differences. Note: This item was previously housed in LI 0970 and was moved to LI 5664.</p>		
<p>[P5 / TS004 Surface Training Device Mods]: This line provides funds to procure, modify and upgrade trainers to include Aegis Weapon Systems, Aegis Ashore, Littoral Combat Ship (LCS), DDG 1000, shore based Integrated Navigation, Seamanship and Shiphandling Trainers (I-NSST), Ship Self Defense System (SSDS), and other Surface Warfare related individual and team Training Programs to include Navigation, Hull, Mechanical and Electrical (HM&E), combat systems (CS), and Amphibious and Mine Warfare (AMW) Technical Training Equipment, Training Devices, Training Unique Equipment, Training systems, and the Surface Training Advanced Virtual Environment (STAVE). STAVE methodology provides students with an immersive and interactive learning environment as well as hands-on training equipment as part of a blended solution, which accelerates learning, improves student performance, and supports both DON High Velocity Learning and Ready Relevant Learning intent. Funds ensure alignment between Surface Learning Centers and Fleet Concentration Area training systems and fleet training requirements as dictated by the Surface and Expeditionary Warfare Training Plan (SEWTP). Additionally, funds support establishment and improvement of ship on-board training curriculum for the purpose of maintaining perishable operator and maintenance skills.</p>		
<p>[P5 / Navigation Trainers]: NAVIGATION TRAINERS - Funds are provided for modifications/upgrades to shore based Navigation Trainers.</p>		
<p>[P5 / AEGIS Ashore Trainer/C4I/Tech Refresh]: AEGIS ASHORE TRAINER/C4I/Tech Refresh - Funds modernization, delivery, installation and life-cycle maintenance support of the high fidelity Aegis Ashore Team Trainer in support of the land-based Aegis Ashore Training Continuum that is aligned to the training system for Navy Sailors who will man European Phased Adaptive Approach (EPAA) land-based BMD facilities in Poland and Romania. The Aegis Ashore Team Trainer (AATT) at Dam Neck, VA is the single site for individual watch team tactical training, certification events, and sustainment training for Aegis Ashore rotational crews assigned to AA BMD Host Nation Sites. Funds also provide for the integration of C4I components, BMD Upgrades, and tech refresh.</p>		
<p>[P5 / Combined IAMD/ASW Trainer (CIAT)]: Combined Integrated Air and Missile Defense (IAMD)/Anti-submarine Warfare (ASW) Trainer (CIAT): From the Aegis Weapon System/SPY Radar Readiness Task Force, Fleet Integrated Air and Missile Defense and Anti-Submarine Warfare Improvement Programs, Naval Integrated Fire Control-Counter Air (NIFC-CA), and C5I training requirements documents, one of the areas identified for long term investment was to meet the requirement for a high fidelity integrated air and missile defense and anti-submarine warfare training capability. Due to the cost and operations prohibitive realities associated with modifying onboard training systems, which currently meet only 60% of the DON requirement for ship training systems to be commensurate with tactical system capability, this shore-based, high fidelity trainer is being procured and installed to emulate most current AEGIS Baseline 9 configurations. The CIAT High Fidelity trainer includes all necessary tactical IAMD, ASW and Electronic Warfare (EW) systems, associated hardware and work stations, the simulation and stimulation software and network hardware, training brief/debrief capabilities and instructor operating control system. Due to the complexity and size of the system being procured , a spiral procurement and installation process will be utilized and executed in stages to maximize training capabilities that align with Fleet requirements. The CIAT will field in the Fleet Concentration Areas of San Diego and Norfolk in support of program of record Phase II, Advanced Warfare Training (AWT). The effort began in FY 14 and supports procurement and installation of two systems across the FYDP. Funds also include costs associated with tactical and other software licensing, Information Assurance, computer program procurements and patches to ensure alignment with DON CIO Cyber requirements and ship tactical modernization.</p>		
<p>[P5 / Navy Training System Plan (NTSP TTE/TD Mods)]: Funds procurement, installation, and upgrades for surface and expeditionary training systems in multiple Fleet Concentration Areas (FCA) in accordance with the results of DON directed and Fleet sponsored studies, NTSP updates, and Technical Training Audits from 2011 through 2017. One of the key items identified in the Fleet Review Panel of Surface Force Readiness, LPD 17 Class Wholeness Task Force, Navigation Wholeness Study, Surface Engineering Training Wholeness Review, Littoral Combat Ship (LCS) Front End Analysis (FEA), DDG 1000 wholeness review, and LHD 8/ LHA 6 MPT analyses done by the Surface Warfare Enterprise was the outdated or lack of training equipment in the schoolhouses. Based on this analysis, funding supports requirements identified in approximately 80 Navy Training System Plan updates and 162 Technical Training Course Audits. This investment will be for the procurement and installation of Training Equipment at Learning Centers to keep training courses in alignment with current configuration of equipment in the fleet. Investment ensures Surface Warfare Training Continuums are capable of meeting training requirements directly supporting readiness for systems/courses, including the following:</p> <ol style="list-style-type: none">1. Magazine Sprinkler Systems Operations and Maintenance2. Air Cooled Frequency Converter Maintenance3. Controls and Governors Regulators4. Advanced Welding5. Habitability Auxiliaries (Mechanical)		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>6. Habitability Auxiliaries (Electrical)</p> <p>7. Hydraulic Systems</p> <p>8. CS A School</p> <p>9. Galley Watch Captain</p> <p>10. Laundry Systems Maintenance</p> <p>11. Hydraulics Systems</p> <p>12. Galley Supervisor</p> <p>[P5 / CSCS Modernization/Aegis Capability Build (ACB) Training Systems]: Funds the procurement and installation of AEGIS Advanced Capability Build (ACB) Technical Training Equipment (TTE) in response to the Aegis Weapon System/SPY Radar Readiness Task Force, Fleet Integrated Air and Missile Defense and Anti-Submarine Warfare Improvement Programs, Aegis Ashore, Naval Integrated Fire Control-Counter Air (NIFC-CA) and C5I training requirements document that there is training shortfall for procurement and installation of ACB Technical Training Equipment (TTE) Simulation/Stimulation at the Aegis Training and Readiness Center (ATRC) Learning Site.</p> <p>[P5 / Technical Training Equipment Modifications]: Funds schoolhouse modifications, upgrades, and technology refreshes of end items in support of fleet training requirements including Hull Mechanical and Electrical (HM&E), and combat systems technical training equipment (TTE) for the training activities. Provides equipment to augment existing TTE due to increased student throughput, replaces equipment beyond economical repair and procures new equipment.</p> <p>[P5 / LHA 6 and LHD 8 Life Cycle Training]: This line procures maintainer/operator training equipment and software applications for LHA-6/LHD-8 engineering systems in support of multiple courses of instruction at SWOS Learning Center Great Lakes, Norfolk, and San Diego as required by several Navy Training System Plans (NTSPs).</p> <p>[P5 / DDG & CG BMD 4.X/HM&E Modernization Training]: Cruiser and Destroyer modernization and new construction delivers new Ballistic Missile Defense (BMD) capabilities as well as new Hull Mechanical and Electrical (HM&E) systems. This line funds two BMD 4.0 training labs as well as HM&E training equipment for the schoolhouses to train approximately 3,000 students over the FYDP. Without this equipment, the Navy cannot train Sailors and Officers to operate and maintain the new BMD and HM&E systems. There is no Ready Relevant Learning (RRL) solution able to substitute for these training requirements.</p> <p>[P5 / NATO SEASPARROW Surface Missile System (NSSMS) Schoolhouse Trainer]: This line funds the procurement and installation of MK57 Mod 12/15 NATO Sea Sparrow Missile System (NSSMS) training and technical equipment in the schoolhouse. The MK57 Mod 12/15 NSSMS training and technical equipment will ensure that sailors are properly trained on how to operate and maintain the current MK57 Mod 12/15 NSSMS.</p> <p>[P5 / SURFACE MINOR MODS]: Funds modernization for training systems and sustainment for over 200 surface and expeditionary training systems in accordance with the results of DON directed and Fleet sponsored studies from 2009 through 2016. Specific studies of surface training systems include: Fleet Review Panel of Surface Force Readiness, Aegis Weapon System/SPY Radar Readiness Task Force, LPD 17 Class Wholeness Task Force, Navigation Wholeness Study, Surface Engineering Training Wholeness Review, Fleet Integrated Air and Missile Defense and Anti-Submarine Warfare Improvement Programs, Aegis Ashore, Naval Integrated Fire Control-Counter Air (NIFC-CA) and C5I training requirements documents, Littoral Combat Ship (LCS) Front End Analysis (FEA), DDG 1000 wholeness review, LHD 8/ LHA 6 Front End Analysis (FEA), Commander Naval Surface Forces (CNSF) manpower initiatives impact on readiness, and the Navy Inspector General (IG) report on Computer Based Training (CBT). The extensive inventory of training systems to support 16 classes of ships requires continual modernization and modification to ensure alignment with fleet systems while addressing technology obsolescence issues. Funding is budgeted to modernize systems including the following:</p> <ol style="list-style-type: none"> 1. Damage Control Wet Trainers Upgrades/Refresh 2. DDG 51 Machinery Control System Maintenance Trainer 3. Electrical Maintenance Training 4. Air Conditioning and Refrigeration (AC&R) Maintenance Training 5. Deck System Equipment Training 6. Marine Sanitation Devices 7. LCAC/SSC Team Trainer Overhaul/Upgrades 		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>8. Firefighting Team Trainers Upgrades/Refresh</p> <p>9. Advanced Electronic Attack (EA)</p> <p>10. Anti-Submarine Warfare (ASW) Tactical Trainers</p> <p>11. Elevator Systems</p> <p>12. Steam Maintenance Training</p> <p>13. DDG 1000 Training Systems</p> <p>14. Expeditionary Mobile Base (ESB) Training Systems</p> <p>15. Landing Craft Utility (LCU) 1600/1700 Training Systems</p> <p>16. Air Defense Strike Group Facility (ADSGF)/Virtual Aegis Combat System Simulator (Fallon, NV)</p> <p>17. LCS Training Systems</p> <p>[P5 / FFT/SLEP/MODULAR TRAINER]: FFT/SLEP/MODULAR TRAINER-Funds are provided for the Service Life Extension Program (SLEP) Firefighter Trainer (FFT). Trainers are located in Newport, Norfolk, Mayport, San Diego, Pearl Harbor, and Great Lakes, and are vital to ensuring the fleet's ability to utilize and employ shipboard systems.</p> <p>[P5 / FCA TRAINERS]: FCA TRAINERS - Funds are provided for upgrades to shore based trainers (Combat System, HM&E) in Fleet Concentration Areas.</p> <p>[P3A / MB040 - BFTT SHIP SETS]: Battle Force Tactical Training (BFTT) T46D Ship set configurations vary depending on AEGIS or Ship Self Defense System (SSDS) installation. T46D's for SSDS include additional materials and units to be integrated for stimulation of the ships sensors.</p> <p>Increased materials and quantities installed in FY19 are required to meet cyber security requirements and to maintain connectivity with Navy Continuous Training Environment (NCTE) to meet shipboard integrated training demands.</p> <p>[P3A - 2 / MB040 BFTT UPGRADE KITS]: Upgrade Kits and interface upgrades implement Fleet prioritized warfighting training improvements to the Total Ship Training Capability (TSTC)/Battle Force tactical Training (BFTT) systems in order to meet evolving combat system capabilities. Training system improvements are a critical factor in achieving warfighter competencies and mission readiness. Unit costs are variable.</p> <p>The increase in field change kits being procured and installed in FY19 are required to rapidly update installations in order to meet cyber security requirements and timelines to maintain cyber security accreditations.</p>		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy								Date: February 2018	
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ID Code (A=Service Ready, B=Not Service Ready): A			Program Elements for Code B Items: N/A			Other Related Program Elements: N/A			
Line Item MDAP/MAIS Code: N/A									

Exhibits Schedule					Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Other Ships Training Equipment	P-5a, P-21			- / 0.000	- / 31.942	- / 24.826	- / 98.366	- / -	- / 98.366
P-5	1 / TS004 Surface Training Device Mods [TS004]				- / 0.000	- / 41.059	- / 26.176	- / 103.002	- / 0.000	- / 103.002
P-3a	1 / MB040 - BFTT SHIP SETS (TBD)				- / 0.000	- / 8.094	- / 16.130	- / 22.555	- / 0.000	- / 22.555
P-3a	2 / MB040 BFTT UPGRADE KITS (TBD)				- / 0.000	- / 6.620	- / 15.890	- / 6.502	- / 0.000	- / 6.502
P-40	Total Gross/Weapon System Cost				- / 0.000	- / 87.714	- / 83.022	- / 230.425	- / 0.000	- / 230.425

Exhibits Schedule					FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Exhibit Type	Title*	Subexhibits	ID CD	MDAP/MAIS Code	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)	Quantity / Total Cost (Each) / (\$ M)
P-40a	Other Ships Training Equipment	P-5a, P-21			- / -	- / -	- / -	- / -	- / -	- / -
P-5	1 / TS004 Surface Training Device Mods [TS004]				- / -	- / -	- / -	- / -	- / -	- / -
P-3a	1 / MB040 - BFTT SHIP SETS (TBD)				- / 21.585	- / 18.565	- / 16.060	- / 15.050	Continuing	Continuing
P-3a	2 / MB040 BFTT UPGRADE KITS (TBD)				- / 7.910	- / 10.460	- / 13.029	- / 14.688	- / 0.000	- / 75.099
P-40	Total Gross/Weapon System Cost				- / 120.574	- / 102.596	- / 70.083	- / 69.408	Continuing	Continuing

*Title represents 1) the Number / Title for Items; 2) the Number / Title [DODIC] for Ammunition; and/or 3) the Number / Title (Modification Type) for Modifications. Title represents the P-40a Title when only the P-40a Summary/Total is shown.

Note: Totals in this Exhibit P-40 set may not be exact or sum exactly due to rounding.

Justification:
 The FY 2019 funding request was reduced by (\$0.68) million to reflect the Department of Navy's effort to support the Office of Management and Budget directed reforms for Efficiency and Effectiveness that include a lean, accountable, more efficient government.

FY 2019 funding provides the Fleet with the required training equipment for the respective LCS homeports and the Surface Warfare Officer School (SWOS). Training equipment is required to satisfy the Train to Qualify Key Performance Parameter (KPP) requirement of the Capabilities Development Document. Required procurements of hardware and software associated with building the trainers and installing this hardware and software at the LCS Training Facilities in each homeport and at SWOS. Trainers are required for both of the ship variants.

The Integrated Tactics Trainers (ITTs) will be procured in FY19 for delivery in FY21. Without the installation of these trainers, the Training throughput capacity at Mayport and San Diego LTF's will be exceeded and sailors will be unable to be trained using the blue/gold crewing model prior to being stationed onboard the Littoral Combat Ships. Without the training, sailors will be unable to safely operate the equipment onboard ships, thus potentially putting the safety of those sailors, damage to equipment, and the mission of the ship, at significant risk.

The Bridge Part Task Trainers (BPTTs) provide valuable training to the sailors. Modernization is required because these Trainers have not been upgraded since installation. Without the modernization of these trainers, in accordance with SWOS analysis, sailors will be forced to use outdated equipment/technology that may fail, have to be restarted numerous times, or repaired prior to being able to train LCS crew. Without the training, sailors will be unable to safely operate the equipment onboard ships, thus potentially putting the safety of those sailors, and the mission of the ship, at significant risk.

The increase in BFTT ship sets being procured and installed in FY19 is necessary to meet the requirement to rapidly update installations to meet cyber security requirements and timelines to maintain cybersecurity accreditations.

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
The phasing of this requirement is based on achieving Ready for Training (RFT) dates for various shipboard systems in FY 19-21 based on system complexity and procurement lead times, which is aligned to the CVN78 deployment ready status and the INITIAL training requirements of the CVN79 Crew.		
The FY19 funding for Surface Training Device Modifications provides funding to procure, modify, and upgrade training devices to keep them compatible with equivalent changes made to Fleet operational equipment. Funds ensure alignment between Surface Learning Centers and Fleet Concentration Area training systems and Fleet training requirements as dictated by the Surface and Expeditionary Warfare Training Plan. Increased funding is required in FY19 for the following efforts, in order to support Fleet readiness and ensure that sailors are properly trained to operate and maintain mission critical systems and effectively execute their missions: 1) Navigation Training Support for the modernization of all Surface Navigation, Seamanship, and Ship-handling Trainers (NSST) in all CONUS and OCONUS Fleet Concentration Areas as well as various schoolhouse locations, in support of the Comprehensive Review - Implementation of Surface Warfare Recommendations; 2) Procurement and installation of an In-Plant Support System (IPSS) for the Aegis Ashore Team Trainer (AATT), in support of the AEGIS Ashore Poland training capacity; 3) An increased number of formal courses of instruction requiring NTSP updates in order to reflect current Fleet configurations; 4) DDG & CG BMD 4.X/HM&E Modernization Training - Two Ballistic Missile Defense (BMD) 4.0 training labs as well as Hull Mechanical and Electrical (HM&E) training equipment for the schoolhouses in support of new BMD capabilities as well as new HM&E systems resulting from Cruiser/Destroyer modernization and new construction deliveries; 5) Procurement and installation of MK57 Mod 12/15 NATO Sea Sparrow Missile System (NSSMS) training and technical equipment in the schoolhouse; 6) Fleet Training Wholeness (FTW) 2025 and Live Virtual Constructive (LVC) training requirements for the Air Defense Strike Group Facility (ADSGF)/Integrated Training Facility (ITF) surface capability; and 7) DDG 1000 Wholeness/Surface Strike Implementation, to fund the execution of Navy Training System Plan requirements for the acquisition of life cycle training solutions to include operator and maintenance training on associated DDG 1000 unique Hull, Mechanical and Electrical Systems and Combat Control Systems.		
NAVIGATION TRAINING SUPPORT - Funds are provided for modifications/upgrades to Navigation Shore Based Trainers, to support the modernization of all Surface Navigation, Seamanship, and Ship-handling Trainers (NSST) in all CONUS and OCONUS Fleet Concentration Areas as well as various schoolhouse locations. Modernization is critical to maintaining trainer service life and avoiding increased costs to maintain aging equipment. Per the DON directed Comprehensive Review - Implementation of Surface Warfare Recommendations, the increase in FY19 funding is in response to directives to provide an integrated NSST and Combat Information Center (CIC) training capability and will result in additional training system modifications/upgrades commencing in FY19.		
AEGIS ASHORE TRAINER/C4I/Tech Refresh -Funds modernization, delivery, installation and life-cycle upgrades for a high fidelity Aegis Ashore Team Trainer in support of the land-based Aegis Ashore Training Continuum. Funds also provide for the integration of a C4I component, BMD Upgrades, and tech refresh. Also funds the training facility to train Navy Sailors who will man EPAA land-based BMD facilities in Poland and Romania. The Aegis Ashore Team Trainer (AATT) at Dam Neck, VA will serve as the single site for individual watch team tactical training, certification events and sustainment training for Aegis Ashore rotational crews assigned to AA BMD Host Nation Sites. Increased funding in FY19 is required for the procurement and installation of an In-Plant Support System (IPSS) for the AATT. The AATT in Dam Neck is the only means of training and certifying crews prior to arriving at their host nation site. As an alternative to funding a second AATT, this IPSS will allow for IA and some maintenance to be conducted separate from the AATT, freeing time to train at the Dam Neck facility and supporting Poland coming online.		
NAVY TRAINING SYSTEM PLAN (NTSP Technical Training Equipment (TTE)/Training Device (TD) Mods) - Funds are provided for the procurement and installation of training equipment and associated logistic support package as outlined in the NTSPs. The increase in FY19 funding is in response to the number of formal courses of instruction that will require NTSP updates in order to reflect current Fleet configurations. Six (6) courses are being revised in FY19, compared to three (3) courses being revised in FY18. Additionally, the FY19 course updates have a broader scope and require additional resources. Failure to update these courses will decrease sailors ability to operate and maintain these critical systems, hindering ships from effectively executing missions and negatively impacting Fleet readiness.		
DDG & CG BMD 4.X/HM&E MODERNIZATION TRAINING - FY19 funding supports two Ballistic Missile Defense (BMD) 4.0 training labs as well as Hull Mechanical and Electrical (HM&E) training equipment for the schoolhouses in support of new BMD capabilities as well as new HM&E systems resulting from Cruiser/Destroyer modernization and new construction deliveries. Without this equipment, there is no way for the Navy to train Sailors and Officers to operate and maintain the new BMD and HM&E systems.		
NATO SEASPARROW SURFACE MISSILE SYSTEM (NSSMS) SCHOOLHOUSE TRAINER - FY19 funding supports the procurement and installation of MK57 Mod 12/15 NATO Sea Sparrow Missile System (NSSMS) training and technical equipment in the schoolhouse. The MK57 Mod 12/15 is already installed on 23 ships. The current NSSMS schoolhouse trainer is the antiquated MK2 which is no longer common with the Fleet system, resulting in schoolhouse training for approximately 400 Sailors achieving just 10% of course objectives relative to the MK57 Mod 12/15. Without the MK57 Mod 12/15 NSSMS training and technical equipment there is no way to ensure that sailors are properly trained on how to operate and maintain the current MK57 Mod 12/15 NSSMS. Note: There is no Ready Relevant Learning (RRL) solution able to substitute for this training requirement.		

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Exhibit P-40, Budget Line Item Justification: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N: Other Procurement, Navy / BA 04: Ordnance Support Equipment / BSA 7: Other Expendable Ordnance		P-1 Line Item Number / Title: 5664 / Surface Training Equipment
ID Code (A=Service Ready, B=Not Service Ready): A	Program Elements for Code B Items: N/A	Other Related Program Elements: N/A
Line Item MDAP/MAIS Code: N/A		
<p>DDG 1000 WHOLENESS/SURFACE STRIKE - FY19 funding will procure shipboard connectivity suites (SCS) for installation aboard the DDG 1000 ships. The SCS units are required to establish network communications between the DDG 1000 embedded training system and the Navy Continuous Training Environment (NCTE) in support of pier-side Fleet Synthetic Training (FST) events. FST events are conducted by the fleet to certify crew, ship and strike groups prior to deployment.</p> <p>SHIP TO SHORE CONNECTOR (SSC) FULL MISSION TRAINERS (FMT) - Funds SSC FMT which is a programmable simulator and is a fundamental element of SSC operator training. New SSC FMTs are required because LCAC FMTs will not support SSC crew training based on significant Command Module/C4N System differences. Note: This item was previously housed in LI 0970 and was moved to LI 5664.</p>		

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy															Date: February 2018					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7							P-1 Line Item Number / Title: 5664 / Surface Training Equipment								Aggregated Items Title: Other Ships Training Equipment					
Item Number / Title [DODIC]	ID CD	MDAP/MAIS Code	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
			Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1) LCS SEAFRAME SIMULATORS																				
1.1) LCS Virtual Reality Labs, Networks & Modernization ⁽¹⁾	A		-	-	-	-	-	-	-	-	4.864	-	-	1.950	-	-	-	-	-	1.950
1.3) LCS Integrated Tactics Trainer (ITT) Modernization	A		-	-	-	-	-	-	-	-	7.952	-	-	-	-	-	-	-	-	-
1.4) LCS Integrated Tactics Trainers / Combats & Engineering Systems	A		-	-	-	-	-	22.155	-	-	-	-	-	-	-	-	-	-	-	-
1.5) LCS Integrated Tactics Trainer ITT (Complete System) ^{(2)(t)}	A		-	-	-	-	-	-	-	-	-	30,028K	2	60.057	-	-	-	30,028K	2	60.057
1.6) LCS Bridge Trainers & Modernization ⁽³⁾	A		-	-	-	-	-	-	-	-	-	-	-	8.655	-	-	-	-	-	8.655
Subtotal: 1) LCS SEAFRAME SIMULATORS			-	-	0.000	-	-	22.155	-	-	12.816	-	-	70.662	-	-	-	-	-	70.662
2) MB040 - BFTT SHIP SETS																				
2.1) MB040 - BFTT SHIP SETS	A		-	-	-	481,545.45	11	5.297	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: 2) MB040 - BFTT SHIP SETS			-	-	0.000	-	-	5.297	-	-	-	-	-	-	-	-	-	-	-	-
3) CVN 78 Class Training Equipment																				
3.1) CVN 78 Class Training Equipment	A		-	-	-	-	-	4.490	-	-	12.010	-	-	7.942	-	-	-	-	-	7.942
Subtotal: 3) CVN 78 Class Training Equipment			-	-	0.000	-	-	4.490	-	-	12.010	-	-	7.942	-	-	-	-	-	7.942
4) Ship to Shore Connector Full Mission Trainers																				
4.1) SSC Full Mission Trainers	A		-	-	-	-	-	-	-	-	-	-	-	19.762	-	-	-	-	-	19.762
Subtotal: 4) Ship to Shore Connector Full Mission Trainers			-	-	0.000	-	-	-	-	-	-	-	-	19.762	-	-	-	-	-	19.762
Total			-	-	0.000	-	-	31.942	-	-	24.826	-	-	98.366	-	-	-	-	-	98.366
Note: Subtotals or Totals in this Exhibit P-40a may not be exact or sum exactly, due to rounding.																				
^(t) indicates the presence of a P-5a																				
Footnotes:																				
⁽¹⁾ 1.1 Procures additional Virtual Reality Labs (VRLs) for San Diego LCS Training Facilities (LTF).																				
⁽²⁾ 1.5 Increase to procure two Integrated Tactical Trainers (ITTs) one for San Diego LCS Training Facility (LTF) and one for Mayport LTF.																				

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Exhibit P-40a, Budget Item Justification For Aggregated Items: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7	P-1 Line Item Number / Title: 5664 / Surface Training Equipment	Aggregated Items Title: Other Ships Training Equipment
⁽³⁾ 1.6 LCS Bridge Trainer FY19 Modernization efforts - Newport, RI (2) LCS 1 variant and (2) LCS 2 variant - San Diego, CA (1) LCS 1 variant and (1) LCS 2 variant LCS Bridge Trainer FY19 procurements - Newport, RI (1) LCS 2 variant - San Diego, CA (1) LCS 2 variant		

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Exhibit P-5a, Procurement History and Planning: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5664 / Surface Training Equipment					Aggregated Items: Other Ships Training Equipment			
Item Number / Title [DODIC]	O C O	FY	Contractor and Location	Method/Type or Funding Vehicle	Location of PCO	Award Date	Date of First Delivery	Qty (Each)	Unit Cost (\$)	Specs Avail Now?	Date Revision Available	RFP Issue Date
1) LCS SEAFRAME SIMULATORS												
1.5) LCS Integrated Tactics Trainer ITT (Complete System) ^{(2)(†)}		2019	Cubic / Orlando, FLA	C / FFP	NAWC TSD	Jun 2019	Jun 2021	2	30,028K	Y		May 2018
^(†) indicates the presence of a P-21												

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Exhibit P-21, Production Schedule: PB 2019 Navy																			Date: February 2018																	
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7										P-1 Line Item Number / Title: 5664 / Surface Training Equipment										Aggregated Items: Other Ships Training Equipment																
Items (Units in Each)							Fiscal Year 2019													Fiscal Year 2020													BALANCE			
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2018	BAL DUE AS OF 1 OCT	Calendar Year 2019													Calendar Year 2020																
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						
1) LCS SEAFRAME SIMULATORS																																				
1.5) LCS Integrated Tactics Trainer ITT (Complete System) ⁽²⁾																																				
	11	2019	NAVY		2	0	2								A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2			
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP						

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Exhibit P-21, Production Schedule: PB 2019 Navy																				Date: February 2018												
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7										P-1 Line Item Number / Title: 5664 / Surface Training Equipment										Aggregated Items: Other Ships Training Equipment												
Items (Units in Each)							Fiscal Year 2021										Fiscal Year 2022														BALANCE	
OCO	MFR #	FY	SERVICE	PROC QTY	ACCEPT PRIOR TO 1 OCT 2020	BAL DUE AS OF 1 OCT	Calendar Year 2021										Calendar Year 2022															
							OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1) LCS SEAFRAME SIMULATORS																																
1.5) LCS Integrated Tactics Trainer ITT (Complete System) ⁽²⁾																																
	11	2019	NAVY		2	0	2	-	-	-	-	-	-	-	1	-	1													0		
								OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

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Exhibit P-21, Production Schedule: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7					P-1 Line Item Number / Title: 5664 / Surface Training Equipment				Aggregated Items: Other Ships Training Equipment			
MFR Ref #	Manufacturer Name - Location	Production Rates (Each / Year)			Procurement Leadtime (Months)							
		MSR For 2019	1-8-5 For 2019	MAX For 2019	Initial				Reorder			
					ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1	ALT Prior to Oct 1	ALT After Oct 1	Manufacturing PLT	Total After Oct 1
1	Cubic - Orlando, FLA				0	0	24	24	0	0	0	0

"A" in the Delivery Schedule indicates the Contract Award Date.

Note: Due to space limitations, quantities in the Exhibit P-21 delivery calendar are truncated and rounded based on the maximum quantity in the calendar as follows. If the maximum quantity is less than or equal to than 9,999, all quantities are shown as each. If the maximum quantity is between 10,000 and 999,999 all quantities are shown in thousands. If the maximum quantity is between 1,000,000 and 999,999,999 all quantities are shown in millions (rounded to the nearest thousand).If the maximum quantity is equal or greater than 1,000,000,000 all quantities are shown in billions (rounded to the nearest million).

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Exhibit P-5, Cost Analysis: PB 2019 Navy												Date: February 2018						
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7						P-1 Line Item Number / Title: 5664 / Surface Training Equipment						Item Number / Title [DODIC]: 1 / TS004 Surface Training Device Mods [TS004]						
ID Code (A=Service Ready, B=Not Service Ready) :										MDAP/MAIS Code:								
Resource Summary				Prior Years		FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total				
Procurement Quantity <i>(Units in Each)</i>				-		-		-		-		-		-				
Gross/Weapon System Cost <i>(\$ in Millions)</i>				0.000		41.059		26.176		103.002		0.000		103.002				
Less PY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Net Procurement (P-1) <i>(\$ in Millions)</i>				0.000		41.059		26.176		103.002		0.000		103.002				
Plus CY Advance Procurement <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Total Obligation Authority <i>(\$ in Millions)</i>				0.000		41.059		26.176		103.002		0.000		103.002				
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)																		
Initial Spares <i>(\$ in Millions)</i>				-		-		-		-		-		-				
Gross/Weapon System Unit Cost <i>(\$ in Dollars)</i>				-		-		-		-		-		-				
Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.																		
Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
Flyaway Cost																		
Recurring Cost																		
1.1.1) Navigation Trainers ⁽⁴⁾	-	-	0.000	-	-	1.700	-	-	1.800	-	-	19.854	-	-	0.000	-	-	19.854
1.1.2) AEGIS Ashore Trainer/C4I/Tech Refresh ⁽⁵⁾	-	-	0.000	-	-	10.900	-	-	3.200	-	-	7.600	-	-	0.000	-	-	7.600
1.1.3) Combined IAMD/ASW Trainer (CIAT) ⁽⁶⁾	-	-	0.000	-	-	12.660	-	-	15.300	-	-	12.300	-	-	0.000	-	-	12.300
1.1.4) Navy Training System Plan (NTSP TTE/TD Mods) ⁽⁷⁾	-	-	0.000	-	-	6.543	-	-	2.100	-	-	9.100	-	-	0.000	-	-	9.100
1.1.5) CSCS Modernization/Aegis Capability Build (ACB) Training Systems ⁽⁸⁾	-	-	0.000	-	-	1.000	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000
1.1.6) Technical Training Equipment Modifications ⁽⁹⁾	-	-	0.000	-	-	0.730	-	-	0.741	-	-	0.755	-	-	0.000	-	-	0.755
1.1.7) LHA 6 and LHD 8 Life Cycle Training ⁽¹⁰⁾	-	-	0.000	-	-	3.600	-	-	0.000	-	-	0.000	-	-	0.000	-	-	0.000

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Exhibit P-5, Cost Analysis: PB 2019 Navy										Date: February 2018																			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7					P-1 Line Item Number / Title: 5664 / Surface Training Equipment					Item Number / Title [DODIC]: 1 / TS004 Surface Training Device Mods [TS004]																			
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:														

Note: Subtotals or Totals in this Exhibit P-5 may not be exact or sum exactly due to rounding.

Cost Elements	Prior Years			FY 2017			FY 2018			FY 2019 Base			FY 2019 OCO			FY 2019 Total		
	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)	Unit Cost (\$)	Qty (Each)	Total Cost (\$ M)
1.1.8) DDG & CG BMD 4.X/HM&E Modernization Training ⁽¹¹⁾	-	-	0.000	-	-	0.000	-	-	0.000	-	-	28.100	-	-	0.000	-	-	28.100
1.1.9) NATO SEASPARROW Surface Missile System (NSSMS) Schoolhouse Trainer ⁽¹²⁾	-	-	0.000	-	-	0.000	-	-	0.000	-	-	10.200	-	-	0.000	-	-	10.200
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	37.133	-	-	23.141	-	-	87.909	-	-	0.000	-	-	87.909
<i>Subtotal: Flyaway Cost</i>	-	-	0.000	-	-	37.133	-	-	23.141	-	-	87.909	-	-	0.000	-	-	87.909
Hardware - Trainers Cost Cost																		
Recurring Cost																		
2.1.1) SURFACE MINOR MODS ⁽¹³⁾	-	-	0.000	-	-	1.626	-	-	1.535	-	-	13.286	-	-	0.000	-	-	13.286
2.1.2) FFT/SLEP/ MODULAR TRAINER ⁽¹⁴⁾	-	-	0.000	-	-	1.900	-	-	1.400	-	-	1.707	-	-	0.000	-	-	1.707
2.1.3) FCA TRAINERS ⁽¹⁵⁾	-	-	0.000	-	-	0.400	-	-	0.100	-	-	0.100	-	-	0.000	-	-	0.100
<i>Subtotal: Recurring Cost</i>	-	-	0.000	-	-	3.926	-	-	3.035	-	-	15.093	-	-	0.000	-	-	15.093
<i>Subtotal: Hardware - Trainers Cost Cost</i>	-	-	0.000	-	-	3.926	-	-	3.035	-	-	15.093	-	-	0.000	-	-	15.093
Gross/Weapon System Cost	-	-	0.000	-	-	41.059	-	-	26.176	-	-	103.002	-	-	0.000	-	-	103.002

Footnotes:

⁽⁴⁾ NAVIGATION TRAINING SUPPORT - Funds are provided for modifications/upgrades to shore based Navigation Trainers, to support the modernization of all Surface Navigation, Seamanship, and Ship-handling Trainers (NSST) in all CONUS and OCONUS Fleet Concentration Areas as well as various schoolhouse locations. Modernization is critical to maintaining trainer service life and avoiding increased costs to maintain aging equipment. Per the DON directed Comprehensive Review, the increase in FY19 funding is in response to directives to provide an integrated NSST and Combat Information Center (CIC) training capability and will result in additional training system modifications/upgrades commencing in FY19.

⁽⁵⁾ AEGIS ASHORE TRAINER/C4I/Tech Refresh -Funds modernization, delivery, installation and life-cycle upgrades for a high fidelity Aegis Ashore Team Trainer in support of the land-based Aegis Ashore Training Continuum. Funds also provide for the integration of a C4I component, BMD Upgrades, and tech refresh. Also funds the training facility to train Navy Sailors who will man EPAA land-based BMD facilities in Poland and Romania. The Aegis Ashore Team Trainer (AATT) at Dam Neck, VA will serve as the single site for individual watch team tactical training, certification events and sustainment training for Aegis Ashore rotational crews assigned to AA BMD Host Nation Sites. Increased funding in FY19 is required for the procurement and installation of an In-Plant Support System (IPSS) for the AATT. The AATT in Dam Neck is the only means of training and certifying crews prior to arriving at their host nation site. As an alternative to funding a second AATT, this IPSS will allow for IA and some maintenance to be conducted separate from the AATT, freeing time to train at the Dam Neck facility and supporting Poland coming online.

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Exhibit P-5, Cost Analysis: PB 2019 Navy		Date: February 2018
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7	P-1 Line Item Number / Title: 5664 / Surface Training Equipment	Item Number / Title [DODIC]: 1 / TS004 Surface Training Device Mods [TS004]
ID Code (A=Service Ready, B=Not Service Ready) :		MDAP/MAIS Code:
<p>(6) COMBINED IAMD/ASW TRAINER (CIAT) -Funds are provided to procure and install hardware for a Shore Based IAMD and ASW Trainer. Funds are required across the FYDP for tactical and other software licensing (all baselines), Information Assurance and routine software and hardware modifications of two CIAT systems (San Diego, Norfolk) and ensures alignment with DON CIO Cyber requirements and tactical ship modernization. Additionally, procuring and maintaining high fidelity training devices at Fleet Concentration Areas and Navy schoolhouses for operators is less cost than the traditional procuring of lower fidelity ship embedded training systems.</p> <p>(7) NAVY TRAINING SYSTEM PLAN (NTSP Technical Training Equipment (TTE)/Training Device (TD) Mods) - Funds are provided for the procurement and installation of training equipment and associated logistic support package as outlined in the NTSPs. The increase in FY19 funding is in response to the number of formal courses of instruction that will require NTSP updates in order to reflect current Fleet configurations. Six (6) courses are being revised in FY19, compared to three (3) courses being revised in FY18. Additionally, the FY19 course updates have a broader scope and require additional resources. Failure to update these courses will decrease sailors ability to operate and maintain these critical systems, hindering ships from effectively executing missions and negatively impacting Fleet readiness.</p> <p>(8) Center for Surface Combat Systems (CSCS) Modernization/Aegis Capability Build (ACB) Training Systems - Funds are provided for upgrades to current CSCS and ATRC training systems to eliminate reliance on outdated and maintenance-intensive technical training equipment. Procure and install equipment which will allow for training on Aegis ACB 16 and install simulation/stimulation to be used in training systems for ATRC and CSCS Aegis curriculum.</p> <p>(9) Technical Training Equipment Modifications - Funds procure Hull Mechanical and Electrical (HM&E), and Combat Systems (CS) technical training equipment (TTE) for the training activities. Provides equipment to augment existing TTE due to increased student throughput, replaces equipment beyond economical repair and procures new equipment.</p> <p>(10) LHA 6 and LHD 8 Life Cycle Training - This line procures maintainer/operator training equipment and software applications for LHA-6/LHD-8 engineering systems in support of multiple courses of instruction at SWOS Learning Center Great Lakes, Norfolk, and San Diego, as required by several Navy Training System Plans (NTSPs).</p> <p>(11) DDG & CG BMD 4.X/HM&E Modernization Training - FY19 funding supports two Ballistic Missile Defense (BMD) 4.0 training labs as well as Hull Mechanical and Electrical (HM&E) training equipment for the schoolhouses in support of new BMD capabilities as well as new HM&E systems resulting from Cruiser/Destroyer modernization and new construction deliveries. Without this equipment, there is no way for the Navy to train Sailors and Officers to operate and maintain the new BMD and HM&E systems.</p> <p>(12) NATO SEASPARROW Surface Missile System (NSSMS) Schoolhouse Trainer - FY19 funding supports the procurement and installation of MK57 Mod 12/15 NATO Sea Sparrow Missile System (NSSMS) training and technical equipment in the schoolhouse. The MK57 Mod 12/15 is already installed on 23 ships. The current NSSMS schoolhouse trainer is the antiquated MK2 which is no longer common with the Fleet system, resulting in schoolhouse training for approximately 400 Sailors achieving just 10% of course objectives relative to the MK57 Mod 12/15. Without the MK57 Mod 12/15 NSSMS training and technical equipment there is no way to ensure that sailors are properly trained on how to operate and maintain the current MK57 Mod 12/15 NSSMS. Note: There is no Ready Relevant Learning (RRL) solution able to substitute for this training requirement.</p> <p>(13) SURFACE MINOR MODS - Modifications are required to meet safety standards, keep training systems compatible with equivalent changes made to fleet operational equipment, and to enhance training capabilities. These modifications support the 200+ fielded Surface training systems and support fleet training requirements as dictated by the Surface and Expeditionary Warfare Training Plan (SEWTP). The FY19 increase supports Fleet Training Wholeness requirements in support of a DON-directed deep dive to develop alternatives to improve the Navy's competitive advantage via high-end training, including the Air Defense Strike Group Facility (ADSGF)/Integrated Training Facility (ITF) surface capability in Fallon, NV. Without this ADSGF/ITF surface capability, there is no way to train Carrier Strike Groups on high-end threats and capabilities related to Naval Integrated Fire Control-Counter Air (NIFC-CA). Increased FY19 funding is also required in support of Anti-Submarine Warfare (ASW) Tactical Trainers, enabling advanced ASW training for Officers and Sailors. Increased FY19 funding is also required in support of DDG 1000 Wholeness/Surface Strike Implementation, to fund the execution of Navy Training System Plan requirements for the acquisition of life cycle training solutions to include operator and maintenance training on associated DDG 1000 unique Hull, Mechanical and Electrical Systems and Combat Control Systems.</p> <p>(14) FFT/SLEP/MODULAR TRAINER-Funds are provided for the Service Life Extension Program (SLEP) Firefighter Trainer (FFT). Increased funding in FY19 and FY20 is required as Firefighter Trainers are reaching the end of their life expectancy and more extensive SLEP tasks are needed to extend the life expectancy of the trainers to support the fleet.</p> <p>(15) FCA TRAINERS - Funds are provided for upgrades to shore based trainers (Combat System, HM&E) in Fleet Concentration Areas, to include Multi-Mission Team Trainer upgrades.</p>		

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Exhibit P-3a, Individual Modification: PB 2019 Navy									Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5664 / Surface Training Equipment					Modification Number / Title: 1 / MB040 - BFTT SHIP SETS			
ID Code (A=Service Ready, B=Not Service Ready) :							MDAP/MAIS Code:					
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	8.094	16.130	22.555	0.000	22.555	21.585	18.565	16.060	15.050	Continuing	Continuing
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	8.094	16.130	22.555	0.000	22.555	21.585	18.565	16.060	15.050	Continuing	Continuing
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	8.094	16.130	22.555	0.000	22.555	21.585	18.565	16.060	15.050	Continuing	Continuing
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-
Description: The Battle Force Tactical Training (BFTT)/Advanced Training Domain (ATD)/Total Ship Training Capability (TSTC) family of systems provides realistic joint warfare training across the spectrum of armed conflict; realistic unit level team training in all warfare areas; a means to link ships together which are in different homeports for coordinated training; external stimulation of shipboard training systems; and simulation of non-shipboard forces. TSTC/ATD/BFTT uses a distributed architecture, integrating existing training systems, and uses Distributed Interactive Simulation (DIS) and High Level Architecture (HLA) protocols. TSTC/ATD/BFTT provides ships' Commanding Officers and Strike Group/Battle Force (SG/BF) Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Groups (ATGs), the Tactical Training Groups and C2F/C3F Fleet Synthetic Training (FSTs)/Live Virtual Constuctive (LVC) exercises. The Total Ship Training Capability (TSTC) integrates existing and emergent onboard training and assessment system capabilities to simulate realistic, "train like you fight", combat-like conditions across weapon sensor and combat systems. Migration to TSTC improvements is required to ensure continued, persistent FST/LVC interoperability to deliver training that is commensurate with tactical capabilities. Commercial off the Shelf (COTS) Obsolescence mitigates replacement and upgrade of obsolete and out-of-production COTS components in BFTT systems installed throughout the Fleet to include the AN/USQ-T46D upgrade. BFTT T46D and ATD/T52 are core components of the TSTC. BFTT T46D Ship set configurations vary depending on AEGIS or Ship Self Defense System (SSDS) installation. T46D's for SSDS include additional materials and units to be integrated for stimulation of the ships sensors. FY19 - TSTC/ATD/BFTT Ship Set funding will procure (9) T46D's and (2) T52's and subsequent variants of hardware and software Build 5.x series in support of AN/SQQ-89 upgrades, and ATD software builds in support of AEGIS Baseline 9 TI-16 upgrades and SSDS upgrades -- which drives the difference in unit cost. Installation funding supports installation of (19) BFTT AN/USQ-T46D Systems. Additional costs will be incurred to procure more materials needed to meet cyber security requirements and to maintain connectivity with Navy Continuous Training Environment (NCTE) to meet shipboard integrated training demands. Increased materials and quantities installed in FY19 are required to meet cyber security requirements and to maintain connectivity with Navy Continuous Training Environment (NCTE) to meet shipboard integrated training demands.												

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5664 / Surface Training Equipment						Modification Number / Title: 1 / MB040 - BFTT SHIP SETS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: BFTT SHIP SETS - T46D'S				Modification Type: TBD				Related RDT&E PEs: 0204571N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	<i>Qty (Each) / Total Cost (\$ M)</i>	
Procurement													
<i>Modification Item 1 of 1:</i> MB040 - BFTT SHIP SETS													
B Kits													
Recurring													
1.1.1) BFTT SHIP SETS - NonOrganic ⁽¹⁶⁾	- / -	9 / 8.094	11 / 11.000	17 / 17.000	- / -	17 / 17.000	13 / 13.000	12 / 12.000	10 / 10.000	10 / 10.000	Continuing	Continuing	
<i>Subtotal: Recurring</i>	<i>- / 0.000</i>	<i>- / 8.094</i>	<i>- / 11.000</i>	<i>- / 17.000</i>	<i>- / -</i>	<i>- / 17.000</i>	<i>- / 13.000</i>	<i>- / 12.000</i>	<i>- / 10.000</i>	<i>- / 10.000</i>	<i>Continuing</i>	<i>Continuing</i>	
<i>Subtotal: MB040 - BFTT SHIP SETS</i>	<i>- / -</i>	<i>9 / 8.094</i>	<i>11 / 11.000</i>	<i>17 / 17.000</i>	<i>- / -</i>	<i>17 / 17.000</i>	<i>13 / 13.000</i>	<i>12 / 12.000</i>	<i>10 / 10.000</i>	<i>10 / 10.000</i>	<i>Continuing</i>	<i>Continuing</i>	
<i>Subtotal: Procurement, All Modification Items</i>	<i>- / 0.000</i>	<i>- / 8.094</i>	<i>- / 11.000</i>	<i>- / 17.000</i>	<i>- / -</i>	<i>- / 17.000</i>	<i>- / 13.000</i>	<i>- / 12.000</i>	<i>- / 10.000</i>	<i>- / 10.000</i>	<i>Continuing</i>	<i>Continuing</i>	
Installation													
<i>Modification Item 1 of 1:</i> MB040 - BFTT SHIP SETS	<i>- / 0.000</i>	<i>- / 0.000</i>	<i>- / 5.130</i>	<i>- / 5.555</i>	<i>- / 0.000</i>	<i>- / 5.555</i>	<i>- / 8.585</i>	<i>- / 6.565</i>	<i>- / 6.060</i>	<i>- / 5.050</i>	<i>- / 5.050</i>	<i>- / 41.995</i>	
<i>Subtotal: Installation</i>	<i>- / 0.000</i>	<i>- / -</i>	<i>- / 5.130</i>	<i>- / 5.555</i>	<i>- / -</i>	<i>- / 5.555</i>	<i>- / 8.585</i>	<i>- / 6.565</i>	<i>- / 6.060</i>	<i>- / 5.050</i>	<i>- / 5.050</i>	<i>- / 41.995</i>	
Total													
Total Cost (Procurement + Support + Installation)	0.000	8.094	16.130	22.555	0.000	22.555	21.585	18.565	16.060	15.050	Continuing	Continuing	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7										P-1 Line Item Number / Title: 5664 / Surface Training Equipment										Modification Number / Title: 1 / MB040 - BFTT SHIP SETS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: MB040 - BFTT SHIP SETS																															
Manufacturer Information																															
Manufacturer Name: Various															Manufacturer Location: Various																
Administrative Leadtime (in Months): 2															Production Leadtime (in Months): 9																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Dec 2016				Dec 2017																									
Delivery Dates		Sep 2017				Sep 2018																									
Installation Information																															
Method of Implementation: AIT:: Installation Name: BFTT SHIP SETS																															
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)								
Prior Years		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
FY 2017		- / -	- / -		9 / 5.130		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000		9 / 5.130						
FY 2018		- / -	- / -		- / -		11 / 5.555		0 / 0.000		11 / 5.555		- / -		- / -		- / -		- / -		- / -		0 / 0.000		11 / 5.555						
FY 2019		- / -	- / -		- / -		- / -		- / -		- / -		17 / 8.585		- / -		- / -		- / -		- / -		0 / 0.000		17 / 8.585						
FY 2020		- / -	- / -		- / -		- / -		- / -		- / -		- / -		13 / 6.565		- / -		- / -		- / -		0 / 0.000		13 / 6.565						
FY 2021		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		12 / 6.060		- / -		- / -		0 / 0.000		12 / 6.060						
FY 2022		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		10 / 5.050		- / -		0 / 0.000		10 / 5.050						
FY 2023		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		10 / 5.050		10 / 5.050						
To Complete		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -						
Total		- / -	- / -		9 / 5.130		11 / 5.555		0 / 0.000		11 / 5.555		17 / 8.585		13 / 6.565		12 / 6.060		10 / 5.050		10 / 5.050		82 / 41.995								
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	-	-	-	-	2	3	2	2	1	3	4	3	4	5	4	4	2	4	4	3	2	4	5	1	2	3	3	2	10	82
Out	-	-	-	-	-	-	5	2	2	-	4	4	3	-	9	4	4	-	6	4	3	-	6	5	1	-	5	3	2	10	82
Footnotes: ⁽¹⁶⁾ In FY19, the additional unit cost is caused by the increase of materials and quantities installed in FY19, to meet cyber security requirements and to maintain connectivity with Navy Continuous Training Environment (NCTE) shipboard integrated training demands.																															

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Exhibit P-3a, Individual Modification: PB 2019 Navy							Date: February 2018				
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5664 / Surface Training Equipment				Modification Number / Title: 2 / MB040 BFTT UPGRADE KITS			

ID Code (A=Service Ready, B=Not Service Ready) :						MDAP/MAIS Code:						
Resource Summary	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total
Procurement Quantity (Units in Each)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Cost (\$ in Millions)	0.000	6.620	15.890	6.502	0.000	6.502	7.910	10.460	13.029	14.688	0.000	75.099
Less PY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Net Procurement (P-1) (\$ in Millions)	0.000	6.620	15.890	6.502	0.000	6.502	7.910	10.460	13.029	14.688	0.000	75.099
Plus CY Advance Procurement (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Total Obligation Authority (\$ in Millions)	0.000	6.620	15.890	6.502	0.000	6.502	7.910	10.460	13.029	14.688	0.000	75.099
(The following Resource Summary rows are for informational purposes only. The corresponding budget requests are documented elsewhere.)												
Initial Spares (\$ in Millions)	-	-	-	-	-	-	-	-	-	-	-	-
Gross/Weapon System Unit Cost (\$ in Dollars)	-	-	-	-	-	-	-	-	-	-	-	-

Description:

Battle Force Tactical Training (BFTT)/ Total Ship Training Capability (TSTC) Upgrade Kits: Procure various quantities of upgrade kit/Engineering Change Proposal (ECP) system components, ShipAlts, Field Changes and Software Deliveries. ShipAlts are generally upgrades required to meet Combat Systems configuration requirements. Field Changes to existing BFTT, Battle force Electronic Warfare Trainer (BEWT), Total Ship Training Capability (TSTC), and Trainer Stimulator Simulator System (TSSS) systems include Information Assurance (IA) compliance, Obsolescence, Network upgrades and externally driven interface modifications. Software Deliveries required to support Combat System, IA and BFTT/BEWT/BEWT-II/TSTC/TSSS Hardware requirements. Upgrade Kits and interface upgrades implement Fleet prioritized warfighting training improvements to the TSTC/BFTT systems in order to meet evolving combat system capabilities. Training system improvements are a critical factor in achieving warfighter competencies and mission readiness. Unit costs are variable.

FY19 - Upgrade/Field Change Kit funding will procure and integrate various Battle Force Tactical Training (BFTT)/Total Ship Training Capability (TSTC) family of systems upgrades to include Battle Force Tactical Training Electronic Warfare Trainer (BEWT) Baseline II Hardware & Software upgrades, BFTT Software Baselines 3.5.1 & 5.0 upgrades, and Training Simulation Stimulation System (TSSS) legacy radar interface upgrades. Upgrade BFTT/TSTC Shipboard Connectivity Suite (SCS) through a Tech Refresh, which increases materials needed to meet cyber security requirements. Upgrade various TSTC related shore and ship based training systems. Installation funding supports installation and removal of various training system hardware/software upgrades (ECPs/Field Change (FCs)) on surface ships and related shore sites.

The increase in field change kits being procured and installed in FY19 are required to rapidly update installations in order to meet cyber security requirements and timelines to maintain cyber security accreditations.

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018			
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7				P-1 Line Item Number / Title: 5664 / Surface Training Equipment						Modification Number / Title: 2 / MB040 BFTT UPGRADE KITS			
ID Code (A=Service Ready, B=Not Service Ready) :								MDAP/MAIS Code:					
Models of Systems Affected: Battle Force Tactical Training Upgrade Kits				Modification Type: TBD				Related RDT&E PEs: 0204571N					
Financial Plan	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	To Complete	Total	
	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)	
Procurement													
Modification Item 1 of 1: MB040 BFTT UPGRADE KITS													
B Kits													
Recurring													
1.1.1) BFTT UPGRADE KITS - NonOrganic ⁽¹⁷⁾	- / -	66 / 1.549	111 / 4.423	60 / 1.234	- / -	60 / 1.234	74 / 2.567	106 / 5.336	129 / 7.228	130 / 7.634	- / -	676 / 29.971	
<i>Subtotal: Recurring</i>	- / 0.000	- / 1.549	- / 4.423	- / 1.234	- / -	- / 1.234	- / 2.567	- / 5.336	- / 7.228	- / 7.634	- / 0.000	- / 29.971	
<i>Subtotal: MB040 BFTT UPGRADE KITS</i>	- / -	66 / 1.549	111 / 4.423	60 / 1.234	- / -	60 / 1.234	74 / 2.567	106 / 5.336	129 / 7.228	130 / 7.634	- / -	676 / 29.971	
<i>Subtotal: Procurement, All Modification Items</i>	- / 0.000	- / 1.549	- / 4.423	- / 1.234	- / -	- / 1.234	- / 2.567	- / 5.336	- / 7.228	- / 7.634	- / 0.000	- / 29.971	
Installation													
Modification Item 1 of 1: MB040 BFTT UPGRADE KITS	- / 0.000	- / 5.071	- / 11.467	- / 5.268	- / 0.000	- / 5.268	- / 5.343	- / 5.124	- / 5.801	- / 7.054	- / 0.000	- / 45.128	
<i>Subtotal: Installation</i>	- / 0.000	- / 5.071	- / 11.467	- / 5.268	- / -	- / 5.268	- / 5.343	- / 5.124	- / 5.801	- / 7.054	- / 0.000	- / 45.128	
Total													
Total Cost (Procurement + Support + Installation)	0.000	6.620	15.890	6.502	0.000	6.502	7.910	10.460	13.029	14.688	0.000	75.099	

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Exhibit P-3a, Individual Modification: PB 2019 Navy										Date: February 2018																					
Appropriation / Budget Activity / Budget Sub Activity: 1810N / 04 / 7										P-1 Line Item Number / Title: 5664 / Surface Training Equipment										Modification Number / Title: 2 / MB040 BFTT UPGRADE KITS											
ID Code (A=Service Ready, B=Not Service Ready) :															MDAP/MAIS Code:																
Modification Item 1 of 1: MB040 BFTT UPGRADE KITS																															
Manufacturer Information																															
Manufacturer Name: VARIOUS															Manufacturer Location: VARIOUS																
Administrative Leadtime (in Months): 3															Production Leadtime (in Months): 3																
Dates		FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023					
Contract Dates		Dec 2016				Dec 2017																									
Delivery Dates		Mar 2017				Mar 2018																									
Installation Information																															
Method of Implementation: AIT:: Installation Name: BFTT UPGRADE KITS																															
Installation Cost		Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total		FY 2020		FY 2021		FY 2022		FY 2023		To Complete		Total								
		Qty (Each) / Total Cost (\$ M)	Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)		Qty (Each) / Total Cost (\$ M)										
Prior Years		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
FY 2017		- / -	66 / 5.071		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000								
FY 2018		- / -	- / -		111 / 11.467		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		0 / 0.000								
FY 2019		- / -	- / -		- / -		60 / 5.268		0 / 0.000		60 / 5.268		- / -		- / -		- / -		- / -		- / -		0 / 0.000								
FY 2020		- / -	- / -		- / -		- / -		- / -		- / -		74 / 5.343		- / -		- / -		- / -		- / -		0 / 0.000								
FY 2021		- / -	- / -		- / -		- / -		- / -		- / -		- / -		106 / 5.124		- / -		- / -		- / -		0 / 0.000								
FY 2022		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		129 / 5.801		- / -		- / -		0 / 0.000								
FY 2023		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		130 / 7.054		- / -		0 / 0.000								
To Complete		- / -	- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -		- / -								
Total		- / -	66 / 5.071		111 / 11.467		60 / 5.268		0 / 0.000		60 / 5.268		74 / 5.343		106 / 5.124		129 / 5.801		130 / 7.054		0 / 0.000		676 / 45.128								
Installation Schedule																															
	PYS	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				TC	Tot
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
In	-	10	20	25	11	39	31	26	15	15	15	15	15	24	16	15	19	20	32	35	19	24	37	42	26	38	34	28	30	-	676
Out	-	10	20	25	11	39	31	26	15	15	15	15	15	24	16	15	19	20	32	35	19	24	37	42	26	38	34	28	30	-	676
Footnotes: ⁽¹⁷⁾ Unit costs are variable due to the unique software and/or hardware required by the specific training capability improvement. For example a software upgrade kit average unit cost is \$25K where as a hardware upgrade unit cost could be as much as \$125K based on the upgrade requirements.																															

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